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QUERCUS RUBRA ONCE MORE

H. K. Svenson

For nearly 150 years the well-known timber tree of eastern United States was recognized as *Quercus rubra,* but in 1915 Sargent[1] used the name *Q. rubra* for the southern tree previously known as *Q. falcata* Michx. And recently Rehder[2] has entirely rejected the name *Q. rubra* on the ground that it is a *nomen ambiguum* "based by Linnaeus (Spec. Pl. **2**: 996. 1753)[3] on two different species. The first two synonyms refer to the southern red oak or Spanish oak . . . , while the two synonyms enumerated by Linnaeus under β are apparently referable to the northern red oak. Du Roi in 1771 (Obs. Bot. 35) applied *Q. rubra* L. to the northern red oak. . . " This quotation from Rehder (l. c.) explains succinctly the arguments of Sargent.

In my opinion both procedures were unnecessary, and I believe that we should apply the name *Quercus rubra,* as formerly, to the northern tree.

Sargent was correct in attaching great importance to the first synonym cited, as did Linnaeus.[1] This first reference is to Gronovius (1739):

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[1] Rhodora xvii. 39–40 (1915), xviii. 45–48 (1916).

[2] Journ. Arnold Arb. xix. 283–284 (1938).

[3] QUERCUS foliis obtuse-sinuatis setaceo-mucronatis.
Quercus foliorum sinubus obtusis: angulis lanceolatis seta terminatis integerrimis vix divisis. *Gron. virg.* 117.
Quercus esculi divisura, foliis amplioribus aculeatis. *Pluk. alm.* 309. *t.* 54. *f.* 4. *Catesb. car.* I. *p.* 23. *t.* 23.
β Quercus foliorum sinubus obtusis: angulis acutis seta terminatis: intermediis vix tridentatis margine integerrimo. *Hort. cliff.* 448. *Roy. lugdb.* 80.
Quercus carolinensis, virentibus venis muricata. *Catesb. car.* I. *p.* 21. *t.* 21. *f.* 1.
Quercus virginiana venis rubris muricata. *Pluk. alm.* 309. *t.* 54. *f.* 1 [mistake for f. 5].
Habitat in Virginia, Carolina

> QUERCUS *foliorum sinubus obtusis, angulis lanceolatis seta terminatis integerrimis vix divisis.*
>
> Quercus Esculi divisura, foliis amplioribus aculeatis. *Plukn. Alm.* p. 309. t. 54 f. 4. **Red-oak.** Catesb. Hist. Carol. vol. I. t. **32.**
>
> Quercus rubra seu Hispanica hic dicta, foliis ampliis varie profundeque incisis. *Clayt.*

It will be seen that this reference is based only in small part on Clayton (cited last and without number). Catesby's rather crude figure, with a verbatim copy (!) of Plukenet's phrase-name as legend, Sargent has taken as representing *Q. falcata,* but Suringar, Mededeel. Herb. Leiden no. 56, p. 11 (1928), identifies it as either *Q. Catesbaei* or *Q. digitata* and includes illustrations of the Catesby specimen at the British Museum to strengthen his point. "Clayton's specimen is clearly the digitate form of *Quercus falcata*" (Sargent, p. 39, 1915), but there is also "a specimen of a single leaf of *Quercus velutina*" which Sargent believed "may not have been collected before 1753"; thus the Clayton reference potentially includes two distinct species. But many years had elapsed since Linnaeus had seen the Clayton specimens, if at all, and he did not have them before him when writing *Species Plantarum.* Furthermore, there is no indication whatever that Linnaeus, or even Gronovius, derived the diagnostic phrase [specific name] from a Clayton specimen, as Sargent implies. The second synonym in Linnaeus' treatment refers entirely to the Plukenet and Catesby citations and adds nothing.

Now as to the second part (β) of the Linnaean treatment. That was based primarily on the citation from Hortus Cliffortianus, which in turn "is based on the description and figures of Plukenet and Catesby, and on a specimen presumably from Clifford's garden now preserved in the British Museum" [Sargent, p. 46 (1916)]. This specimen, according to Sargent, represents the northern Red Oak. The very crude figure by Catesby of *Quercus carolinensis, virentibus venis muricata,* probably follows Plukenet's figure, emphasizing green veins instead of red.

---

[1] Cf. Critica Botanica 259 (1737): "Cum Synonyma plantarum varia proponemus ejusdem speciei, necesse est, ut primus locus concedatur Synonymo optimo . . . de reliquis succedentibus non item, debent enim ista secundum nomina generica disponi." [When various synonyms are proposed for the same species, it is necessary to give first place to the best synonym . . . those following may be arranged according to their generic names.]

In this analysis it will be seen that Linnaeus' emphasis falls on the original figures and citations by Plukenet, but the Plukenet specimens are not to be found at the British Museum. Fig. 5, as the "scarlet oake", was drawn from young trees raised from acorns in Compton's garden, judging from Plukenet's explanations. This figure probably represents a leaf of the northern red oak (cf. Sargent, 1916, p. 46) in its sprout form. Fig. 4 represents a conventionalized dissected leaf of the red-oak series, questionably associated by Plukenet with Parkinson's vague illustration of the white oak of Virginia; it could represent, as well as anything else, the normal foliage of the northern red oak. It is interesting to note that Linnaeus, in his own copy of Plukenet, kindly shown to me by Mr. Savage, has written "rubra" beneath both figures 4 and 5.

Around these two figures of Plukenet, representing respectively the dissected and merely scalloped leaves of the red-oak series, I believe Linnaeus and Catesby formed their ideas, the Linnaean phrase *foliis obtuse-sinuatis setaceo-mucronatis* being a phrase-name [i.e. specific name] constructed according to the rule set up by Linnaeus ("*Nomen specificum plantam ab* omnibus congeneribus *distinguat,*" Cf. Critica Botanica 148 (1737) and Philosophia Botanica §§ 159, 257 (1751)), to distinguish the red oak from the chestnut, white, and black oaks. My opinion is close to that of Suringar (l. c., p. 11): "Probably LINNAEUS has not seen CATESBY'S and PLUKENET'S plants, but has built his *Q. rubra* from their drawings." *Species Plantarum* was to a large extent a *compendium* of previously published descriptions and figures, and Linnaeus placed much weight on the illustrations of Plukenet's "opus incomparabile." In the Linnaean Herbarium *Quercus rubra* is represented by three sheets. Two of these (nos. 23, 24) from Kalm, have been discussed by Sargent (1916) and are identifiable either as *Q. palustris* or *Q. coccinea.* The third sheet (no. 22), also from Kalm, has on the reverse side the notation in Linnaeus' hand "Quercus foliorum sinubus obtusis, angulis lanceolatis seta terminatis integerrimis (vix divisus deleatus [?] et legatus [?]) subtus tomentosus." This specimen with a densely tomentose lower surface represents *Q. falcata* Michx., and was identified by James Edward Smith as "*Q. discolor* H. Kew."

At any rate, a TYPE from this assemblage of red-oak species[1] of eastern America was long ago selected and adequately described and illustrated by DuRoi,[1] who cited references to Linnaeus, Miller, and Plukenet's *Quercus esculi divisura, foliis amplioribus aculeatis!* The bark of the tree was described as smooth, the leaves "hellgrün und glatt," and the acorns over an inch long and an inch wide, quite evidently the northern tree. Sargent again selected a type in 1915; but DuRoi had already done so in 1772. Nothing but confusion results in an attempt in this case to base two distinct species upon the Linnaean treatment.

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[1] Also, Professor Fernald and Mr. Long have during the past year collected perfectly good material of *Q. rubra* (the northern tree) in Clayton's region of eastern Virginia.

The name of the northern red oak should therefore in my opinion be *Quercus rubra* L. Sp. Pl. i. 996 (1753)[2]; DuRoi, Harbk. Baumz. 265 (1772); Robinson & Fernald in Gray, Man. ed. 7, 342 (1908).

The first intelligible treatment of the southern tree, as a species, seems to be QUERCUS FALCATA Michx. Hist. Chên. Am. 16, t. 28 (1801), as generally recognized.

BROOKLYN BOTANIC GARDEN,
Brooklyn, New York

NOTES FROM THE HERBARIUM OF THE UNIVERSITY OF WISCONSIN—XVIII

NORMAN C. FASSETT

MYRIOPHYLLUM VERTICILLATUM L., var. **Cheneyi**, n. var., staminibus 4; bracteis 4–9 mm. longis.—WISCONSIN (specimens in Herb. Univ. of Wis.): LaPoint, Madeline Island, July 30, 1896, *L. S. Cheney*, no. 5580 (TYPE) and no. 5594; Port Wing, July 10, 1897, *Cheney*, no. 7145. NEW YORK (specimens in Gray Herbarium): in Hudson River, Mechanicville, Saratoga County, August 28, 1932, *W. C. Muenscher & A. A. Lindsey*, no. 3465; in cove of Hudson River, Coveville, August 28, 1932, *Muenscher & Lindsey*, no. 3466.

Stamen-number is ordinarily diagnostic in *Myriophyllum*, and is used as a primary character in separating species by Schindler.[3] *M. verticillatum* ordinarily has 8 stamens, and the plant here described is placed, by its 4 stamens, in *M. hippuroides* with most keys. Its pectinate bracts place it in the former species.

MIMULUS GLABRATUS HBK., var. **michiganensis** (Pennell), n. comb. *M. glabratus* [subsp.] *michiganensis* Pennell, Acad. Nat. Sci. Mon. i. 119 (1935).

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[1] Die Harbkesche . . . Baumzucht 265 (1772).

[2] If more accurate citation is desired, *Q. rubra* L. emend. DuRoi.

[3] Pflanzenreich iv. fam. 225: 78, 80 (1905).

Originally described from the northern extremity of the southern peninsula of Michigan, this may now be recorded from Mackinac County in the Upper Peninsula as follows: broad wet sandy shore of Lake Michigan, Epoufette, September 11, 1932, *Fassett,* no. 14745 (identified as *michiganensis* by Dr. Pennell); seepy banks, beach of Lake Michigan, Brevort, July 9, 1934, *M. L. Fernald & A. S. Pease,* no. 3515; springy shores, upper beach of Lake Michigan, between Epoufette and Brevort, August 1, 1938, *Fassett,* no. 19403. The last collection was noted in the field as having the tube spotted with light brown within and without, but otherwise it agrees with the description.

Another variety with flowers sometimes as large as those of var. *michiganensis,* with leaves like those of var. *Fremontii* (Benth.) Grant, and with pedicels more than twice as long as the subtending leaves, may take the name of

M. GLABRATUS var. **oklahomensis**, n. var., foliis orbiculatis subcordatis marginibus subintegris vel sinuatis; pedicellis 15–27 mm. longis, quam bracteis duplo longioribus; corolla 10–17 mm. longis.—OKLAHOMA: Hinton, in Caddo Canyon, Caddo County, April 26, 1936, *Delzie Demaree,* no. 12338 (TYPE in Gray Herbarium); in edge of small creek, near Alva, Woods County, April 16, 1934, *G. W. Stevens,* no. 3010; in shallow pond near Doby Springs, Harper County, May 5, 1913, *Stevens,* no. 315.

VERONICA CONNATA Raf., var. **glaberrima** (Pennell), n. comb. *V. connata* [subsp.] *glaberrima* Pennell, l. c., 368.

PHYSOSTEGIA **Nuttallii** (Britton), n. comb. *Dracocephalum Nuttallii* Britton in Britton & Brown, Ill. Fl. ed. 2, iii. 117 (1913).

PODOSTEMUM IN NORTH AMERICA. *Podostemum* ranges from the Ottawa River and central Maine southward to Delaware, and from eastern Kentucky to southern Georgia and southwestern Arkansas. The following specimens are in the herbaria of the New York Botanical Garden and of the University of Wisconsin; in this enumeration they are numbered for reference.

ONTARIO or QUEBEC: (1) upper part of Ottawa River, Canada, August, 1896, *F. F. Allen.* QUEBEC: (2) Hull, September 1, 1894, *John Macoun;* (3) Ile Bizard, Montreal, 19 September 1925, *Marie-Victorin,* no. 22081; (4) St. Eustache, August, 1916, *Marie-Victorin,* no. 3212. MAINE: (5) Chemo Stream, Bradley, October, 1898, *E. D. Merrill;* (6) Collins Dam, West Gardiner, August 18, 1936, *N. C. Fassett,* no. 18295. MASSACHUSETTS: (7) South Natick, August 3, 1880, *E. & C. E. Faxon;* (8) South Natick, September 11, 1878, *Thomas Morong.* CONNECTICUT: (9) Farmill River, Huntington, July 16, 1905, *E. H. Eames,* no. 5290. NEW YORK: (10) Grasse River rapids below Massena, St. Lawrence County, September 4, 1930, *W. C. Muenscher & Bassett Maguire*, no. 1198; (11) St. Regis River, Hogansburg, Franklin County, September 6, 1930, *Muenscher & Maguire*, no. 1197. NEW JERSEY: (12) "Pretty Brook," Princeton, [Torrey Herbarium]; (13) Stocton, August 30, 1895, *H. L. Fisher*. PENNSYLVANIA: (14) West Chester, *W. Darlington;* (15) Martins Creek, Northampton County, *C. S. Williamson;* (16) Winona Falls, near Bushkill, September 6, 1938, *N. C. Fassett & H. H. Calvert*, no. 19488; (17) same data, no. 19489. DELAWARE: (18) Brandywine Creek, Newcastle County, July, 1866, *A. Commons;* (19) Red Clay Creek, Greenbank, September 2, 1884, *Commons;* (20) same data, August 13, 1884. KENTUCKY: (21) near Harlan Court House, Harlan County, August 1893, *T. H. Kearney, Jr.* TENNESSEE: (22) Unaka Mt., *Dr. A. Gattinger.* NORTH CAROLINA: (23) Rainbow Falls, west of Chimney Rock, Rutherford County, July 30, 1933, *Edgar T. Wherry;* (24) French Broad River at Hot Springs, Madison County, July 8, 1898, *Biltmore Herbarium.* GEORGIA: (25) Estotoak Falls, August 11, 1893, *J. K. Small;* (26) Tallulah Falls, Rabun County, alt. 1500–1600 ft., Sept. 3–6, 1894, *Small;* (27) Flint River, Albany, *Chapman;* (28) Falls of the Chatahoochie, Columbus, [Torrey Herbarium]; (29) Chattahoochie River, *Dr. Boykin;* (30) Muckafoonee Creek, Dougherty County, alt. 170 ft., August 26, 1903, *R. M. Harper*, no. 1950. ALABAMA:(31) fertile in fluv. Coosa dit. Clair Cy., sterile in "Chiokwa Creek," September, 1843, *Rugel;* (32) River Falls, Covington County, June 23, 1906, *Harper*, no. 106; (33) Mussel Shoals, Florence, October 18, 1922, *Harper.* MISSISSIPPI: (34) Meridian, June 3, 1897, *S. M. Tracy*, no. 3262; (35) Enterprise, June 12, 1897, *Tracy*, no. 3257. ARKANSAS: (36) Caddo Gap, Montgomery County, April 20, 1937, *V. M. Watts & N. C. Fassett*, no. 18693.

A collection extending the range westward into southeastern Oklahoma is reported from McCurtain County.[1] It is commonly reported as occurring northwestward to Minnesota; Dr. Rosendahl writes me that the report from Minnesota is based upon a specimen, which he has not seen, from Lake Pepin. The writer knows of no habitat suitable for *Podostemum* in the vicinity of Lake Pepin. The locality in Arkansas was visited again in the summer of 1937 by Dr. and Mrs. Watts, in hope of finding fruit. The plant, which in April had thickly clothed the boulders in the stream, had completely disappeared, perhaps because of the grinding action in a recent flood. There was none to be found there in April, 1938, when Dr. Watts and the writer looked for it.

P. CERATOPHYLLUM Michx., f. **abrotanoides** (Nutt.), n. comb. *P. abrotanoides* Nutt., Journ. Nat. Sci. Phila. vii. 105 (1834).

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[1] Little & Olmsted, Proc. Okla. Acad. Sci. xv. 47 (1935).

P. CERATOPHYLLUM, f. **chondroides**, n. f., plantae rigidae; caulibus simplicibus 1.5–8 cm. longis 1 mm. diametro; foliorum segmentis ad 1.5 cm. latis, ultimis 0.35–0.60 mm. latis et 1–3-plo longioribus. TYPE, in the Herbarium of the University of Wisconsin, is number 16 listed above. No. 17, growing in the same brook but in different patches, is f. *abrotanoides*.

These two forms represent, respectively, the most slender, lax and elongate, and the most coarse and rigid extremes of the species. There is little resemblance between them; one suggests a *Ruppia*, and the other a *Chondrus*. But a series of intermediates connects these two, and on no characters do these plants seem to resolve into two distinct entities. *P. abrotanoides* has been described as a southern species, but plants inseparable, except perhaps in maximum length of stem, from those of Mississippi and Georgia, have been collected in Quebec. The arguments for considering the genus as represented in eastern North America to consist of but one highly variable species are outlined in the following discussion of characters.

Fruits, as found on most herbarium sheets, are represented by the one persistent carpel devoid of seeds. This carpel is uniform in all specimens examined, being always 5-ribbed on the exterior, with the interior smooth and lustrous. The distribution of flowers or fruits on the plants is not so uniform. *P. ceratophyllum* has been characterized[1] as having flowers single or scattered, and *P. abrotanoides* distinguished by having them clustered at the end of the stem. But in many cases they are more or less grouped at or near the end of the stem, with solitary ones below. Perhaps the most definite example of a terminal cluster is found on collection 1 listed above; this is from the extreme northern station for *Podostemum!*

What appears at first sight to be a clear character is the inclusion in the spathe of most or all of the pedicel of the mature fruit in most of the material identified as *P. abrotanoides*. In some northern material the fruits are well exserted on pedicels up to 8 mm. long. However, included pedicels are the rule on no. 9 from Connecticut, 10 from New York, 14 from Pennsylvania, 29 from Georgia, and 31 from Alabama, and the fruits are definitely long-pedicelled in no. 1 from Canada and 30 from Georgia. In no. 2 from Quebec, 5 from Maine, 13 from New Jersey, 21 from Kentucky, and 35 from Mississippi, there are included, short-exserted, and long-exserted pedicels associated on the same plant. On most individuals the pedicels are terete, on some they are winged, and on others both types occur.

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[1] N. Am. Fl. xxii. pt. 1: 6 (1905).

The stipules are typically adnate below to the petiole as a pair of scarious marginal wings, and above connate and free from the petiole to form a ligule-like outgrowth. On a few specimens from widely separated points (no. 3 from Quebec, 10 & 11 from New York, 34 & 35 from Mississippi) they seem not to be developed. On occasional individuals (no. 6 from Maine and 15 from Pennsylvania) they are well developed on some leaves and absent from others.

Leaf-segments have been used in distinguishing two species, those of *P. ceratophyllum* being characterized as flat, while those of *P. abrotanoides* are described as filiform. But in all specimens they are actually flat. The following measurements of the terminal segments of leaves of pressed material of what is here considered typical *P. ceratophyllum* were made with a compound microscope and micrometer eyepiece. No. 6 from Maine and 7 from Massachusetts, width 350 microns; 8 from Massachusetts, 120–170 microns; 13 from New Jersey, 150–200 microns; 18 from Delaware, 150–180 microns; 20 from Tennessee, 250–300 microns; 23 from North Carolina, 200 microns; 24 from North Carolina, 110–200 microns; 30 from Georgia, 200 microns. *P. ceratophyllum* f. *abrotanoides*, as distinguished in the key below, occurs throughout the range of *P. ceratophyllum*, and its ultimate leaf-segments average a little narrower, as follows: no. 2 from Quebec, 250 microns; 3 from Quebec, 150 microns; 4 from Quebec, 120 microns; 9 from Connecticut, 150–200 microns; 10 from New York, 150 microns; 11 from New York, 100–150 microns; 29 from Georgia, 100 microns; 34 from Mississippi, 100–200 microns; 35 from Mississippi, 120–180 microns.

In the following key, the forms of the extremely variable *P. ceratophyllum* are rather arbitrarily placed in three groups on a basis of habit. The form taken as typical is the one illustrated by Michaux,[1] and is intermediate between the extremes.

a. Terminal segments of leaves many times as long as broad, very narrowly ribbon-like, 100–350 microns wide at tip. . . . *b.*
    b. Plant rather rigid; stems rarely exceeding 1.5 dm. in length; leaves spreading at an angle, often absent from the lower part of the stem. . . . . *P. ceratophyllum* (typical).
    b. Plant lax; stems reaching 8 dm. in length; leaves loosely ascending, usually borne along the whole length of the stem. . . . . *P. ceratophyllum* f. *abrotanoides.*
a. Terminal segments of leaves 1–3 times as long as broad, 350–600 microns wide at tip. . . . . *P. ceratophyllum* f. *chondroides.*

For loans of material of *Myriophyllum* and of *Podostemum* the

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[1] Fl. Bor.-Am. ii. 165 (1803).

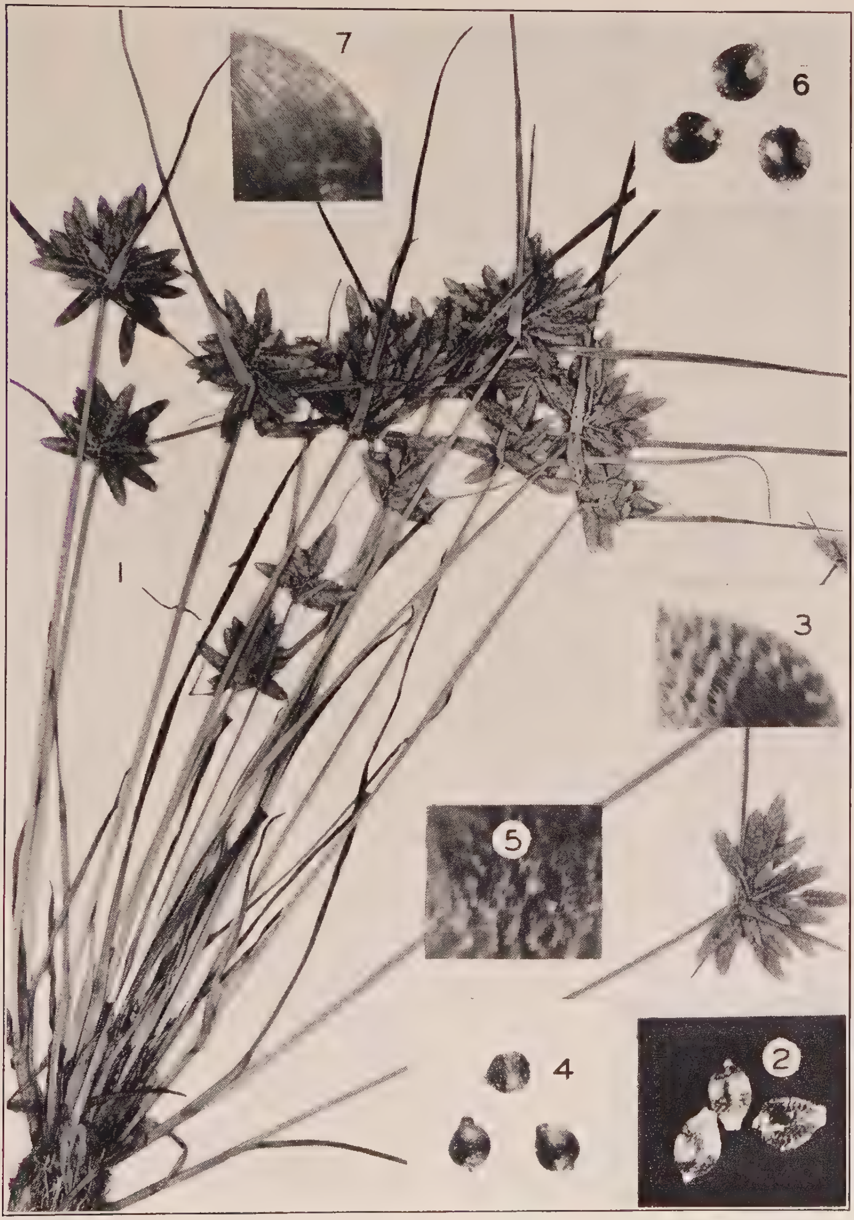

Photo. W. H. Hodge

Cyperus flavescens: fig. 6, achenes, × 10, from Maritime Alps: fig. 7. surface of achene, × 70, from Maritime Alps.

Var. poaeformis: plant, × 1, from New Jersey; fig. 2, achenes, × 10, from Virginia; fig. 3, surface of achene, × 70, from Virginia.

Var. piceus: fig. 4, achenes, × 10, from Mexico; fig. 5, surface of achene, × 70, from Mexico.

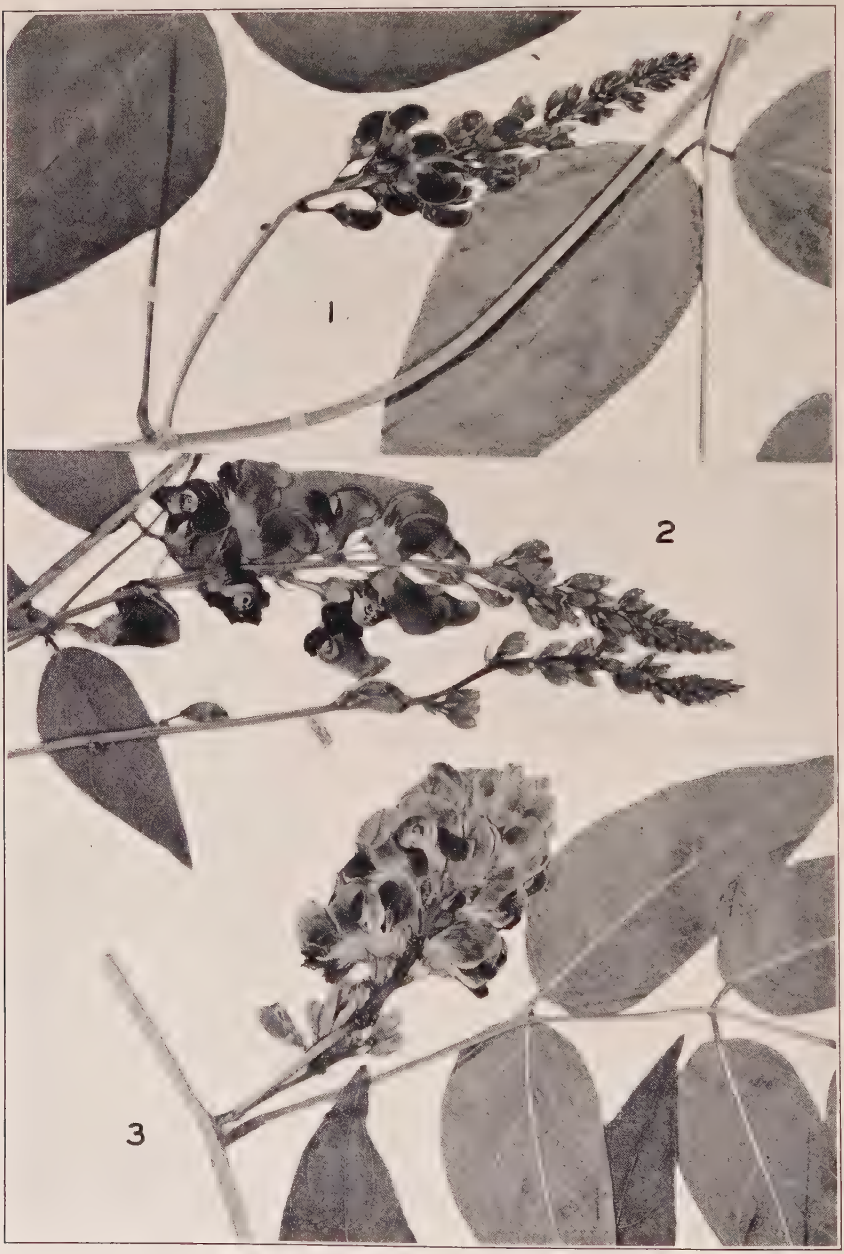

Photo. W. H. Hodge

APIOS AMERICANA: FIG. 3, inflorescence, × 1, from New York.
Var. TURRIGERA: FIG. 1, inflorescence, × 1 from Virginia (TYPE); FIG. 2, inflorescences, × 1, from South Carolina.

writer is indebted to the curators of the Gray Herbarium and of the New York Botanical Garden.

LAST SURVIVORS IN THE FLORA OF TIDEWATER VIRGINIA

M. L. Fernald

(Continued from p. 504)

Cenchrus tribuloides L. Extending up the James to Surry County: sand-beach, Claremont Wharf, no. 8950.

Erianthus strictus Baldwin. Range extended inland to Greensville County: pond-hole in pine and oak woods near Three Creek, north of Emporia, no. 9241.

Reported in 1938 as new to Virginia. Now known to us as one of the commoner species of the region from York and Prince George Counties southward. Much earlier than the plumose species, flowering chiefly from July to September and quickly identified from the moving car by its slender and stiff plumeless panicle.

E. compactus Nash. Range extended inland from Sussex County to Dinwiddie and Greensville Counties.

Arthraxon hispidus (Thunb.) Makino, var. cryptatherus (Hackel) Houda. To the station in Elizabeth City County add one in Sussex County: turfy right-of-way by railroad, Jarratt, no. 9517.

*Manisuris rugosa (Nutt.) Kuntze. Sussex County: exsiccated argillaceous pineland about 2 miles east of Stony Creek, no. 8916.

An interesting station, connecting those of the Carolinas with the northern outliers in Delaware and southern New Jersey. See p. 476.

Cyperus flavescens L., var. **poaeformis** (Pursh), comb. nov. *C. poaeformis* Pursh, Fl. Am. Sept. i. 50 (1814). Plate 574, figs. 1–3.

C. flavescens L., var. **piceus** (Liebm.), comb. nov. *C. piceus* Liebm. in Vidensk. Selsk. Skr. Kjøbenh. ser. V. ii. (1851) 200. Plate 574, figs. 4 and 5.

True *Cyperus flavescens* of Eurasia and Africa has the mature achenes (figs. 6 and 7) blackish-brown, with vertical rows of oblong superficial cells and at most very obscure and tardily developed transverse zonation. In outline they are broadly obovate and (including stipe and apiculation) close to 1 mm. long. The plant of eastern North America, on the other hand, has achenes (figs. 2 and 3) with more prominent reticulation, the transverse ridges pronounced and in maturity becoming white bands of mineral substance suggesting lines of frost-crystals; the body of the achene being black. In outline the achenes of this eastern North American plant (*C. poaeformis*) are rather narrowly obovoid or even ellipsoid and they measure 1–1.2 mm. long. This plant, var. *poaeformis,* extends from the West Indies and Florida to Texas, northward to southeastern New York, Pennsylvania, Ohio, Michigan, Illinois and Missouri.

In South America and Mexico *Cyperus flavescens* may have darker scales than in Europe or in the United States, but this character completely breaks down, although upon color alone Kükenthal in Engler, Pflanzenr. iv^{20}. 395, 396 (1935) maintains *C. piceus* Liebm. as a species. This Mexican and South American material, inseparable in habit, spikelets and scales from *C. flavescens* and its var. *poaeformis* (the darkening of the scales being too instable a character), has achenes (FIGS. 4 and 5) intermediate between those two: dark-brown to black, broadly obovoid, 0.9–1 mm. long, with reticulation prominent but with the white transverse ridges less developed than in var. *poaeformis* or the white quite wanting. It seems to me a reasonably good tropical American variety. Var. POAEFORMIS abounds in eastern Virginia.

In PLATE 574, FIG. 1 is a plant, × 1, of *Cyperus flavescens,* var. *poaeformis,* from Cold Spring, New Jersey, *Gershoy,* no. 119; FIG. 2, achenes, × 10, from Virginia, *Fernald & Long,* no. 9277; FIG. 3, surface of achene, × 70, of no. 9277. FIG. 4 is a group of achenes, × 10, of var. *piceus,* from Mexico, *Pringle,* no. 11,299; FIG. 5, surface, × 70, of one of these achenes. FIGS. 6 and 7 show achenes, × 10, and their surface, × 70, of the European (typical) *C. flavescens,* from the Maritime Alps, *Moggridge.*

CYPERUS POLYSTACHYOS Rottb., var. **texensis** (Torr.), comb. nov. *C. holosericeus* Link, Hort. Berol. i. 317 (1827), fide Kükenthal. *C. microdontus* Torr. in Ann. Lyc. N. Y. iii. 255 (1836). *C. Gatesii* Torr. l. c. (1836). *C. microdontus,* β. *Texensis* Torr. l. c. 430 (1836). *C. fugax* Liebm. in Vidensk. Selsk. Skr. Kjøbenh. ser. 5: 196 (1851). *C. inconspicuus* Liebm. l. c. 197 (1851). *C. Liebmanni* Steud. Syn. Cyp. 7 (1855). *C. Texensis* (Torr.) Steud. l. c. 9 (1855). *C. polystachyus,* β. *Leptostachyus* Boeckel. in Linnaea, xxxv. 478 (1868); Kükenth. in Engler, Pflanzenr. iv^{20}. 371 (1935). *Pycreus polystachyus,* var. β. *laxiflora* C. B. Clarke in Urb. Symb. Antill. ii^{1}. 17 (1900). *C. filicinus,* var. *microdontus* (Torr.) Fernald in RHODORA, xix. 153 (1917).

There seems to me no question that our annual plant, varying from individuals with single tall culms to low and matted extremes, but always with linear spikelets only 1.2–2 mm. broad, the membranous dull obtuse or merely subacute and barely mucronulate scales 1.5–2 mm. long and the achenes only 0.8–1 mm. long, is a variety of the pantropical *Cyperus polystachyos*. It has been called many species, Torrey giving it at least three names; but accumulated material shows it, like other annuals, to be very plastic. The International Rules of Nomenclature require us to use the earliest published valid name in each category of classification. *C. microdontus*, β. *Texensis* Torr. (1836) was based on immature material (before me) of the eastern American plant and the Drummond material upon which it was based is cited by Kükenthal under var. *Leptostachyus*, which was not published until 1868.

Dwarf extremes of *Cyperus filicinus* Vahl (1806) (*C. Nuttallii* Eddy (1820)) simulate dwarfed plants of *C. polystachyos*, var. *texensis*, and on some of the Cape Cod ponds they are intermixed. It was this mixed material which lead me to reduce *C. microdontus* Torr. to varietal rank under *C. filicinus*. Boeckeler had a similar feeling about the two plants when he treated *C. filicinus* as *C. polystachyus*, var. *Macrostachyus* in Linnaea, xxxv. 479 (1868). *C. filicinus* is essentially a maritime species of Atlantic North America. *C. polystachyos*, var. *texensis* is tropical, extending northward in fresh (acid) soils to Cape Cod. I separate the two as follows.

C. FILICINUS. Spikelets linear-lanceolate, 1.5–3 mm. broad; scales 2–3.5 mm. long, oblong-lanceolate, subcoriaceous, lustrous, acute, prominently mucronate; achenes 1.2–1.4 mm. long.

C. POLYSTACHYOS, var. TEXENSIS. Spikelets linear, 1.2–2 mm. broad; scales 1.5–2 mm. long, narrowly elliptic-ovate, membranaceous, dull, obtuse or only subacute, barely mucronulate; achenes 0.8–1 mm. long.

Upon Curtiss, no. 3050, from Indian River, Florida, Kükenthal set up *Cyperus filicinus*, forma *splendens* Kükenth. in Engler, Pflanzenr. iv^{20}. 374 (1935). The sheet in the Gray Herbarium is inseparable from large extremes of *C. polystachyos*, var. *texensis* (such as *Curtiss*, no. 3049), except in its prolonged spikelets. Var. TEXENSIS is common in eastern Virginia.

C. STRIGOSUS L., var. ROBUSTIOR Britton. HENRICO COUNTY: sphagnous springy swales bordering Whiteoak Swamp, west of Elko Station, no. 8968. GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, no. 8969.

Seen by us only in these two sphagnous areas, the very tall culms usually solitary, the very slender spikelets up to 4 cm. long.

C. FILICULMIS Vahl., var. OBLITUS Fern. & Grisc. Range extended inland to SOUTHAMPTON COUNTY: dry white sands east of Drewryville, south of Franklin and south of Sebrell, many nos.

ELEOCHARIS TENUIS (Willd.) Schultes, var. PSEUDOPTERA (Weatherby) Svenson. DINWIDDIE COUNTY: rich deciduous woods about old marl-pits east of Burgess Station, no. 9838. See p. 492.

Svenson's map 30, in RHODORA, xli. 53 (1939), indicates this characteristic plant as known in Virginia only on the Potomac.

E. ALBIDA Torr. To the two previously recorded stations (on the coasts of Northampton and Princess Anne) add one in SURRY COUNTY: sandy tidal shore of Crouch Creek, east of Scotland, no. 8584 (culms wiry). See p. 467 and MAP 3.

*SCIRPUS NOVAE-ANGLIAE Britton. SURRY COUNTY: tidal marsh at mouth of Crouch Creek, east of Scotland, no. 8593.

First station from south of the lower Delaware. Whether or not the species can finally be maintained, the occurrence of this plant, characteristic of the coast of eastern Canada and New England, close to northern colonies of *Eleocharis albida* and with *Aeschynomene virginica* is at least noteworthy. See p. 467 and MAP 2.

S. FONTINALIS Harper, var. **virginiana**, var. nov., a varietate typica differt inflorescentiae ramis ramulisque valde adscendentibus.—Calcareous springheads, alluvial woods and cypress swamps, Surry County, VIRGINIA: calcareous meadow near head of Sunken Meadow Creek, south of Claremont, April 10, 1938 (scarcely in anthesis), *Fernald & Long*, no. 7761; along rills and about springs, rich calcareous woods at head of Sunken Meadow Creek, June 12 and 13, 1938 (overripe), no. 8108; wooded calcareous springheads, Claremont Wharf, May 20,1939 (in anthesis), no. 9839 and June 22, 1939 (overripe), no. 10,143; alluvial woods along Gray's Creek, west of Old Courthouse Corners, May 20, 1939 (mature), no. 9840 (TYPE in Herb. Gray, ISOTYPE in Herb. Phil. Acad.); border of cypress swamp, along College Run, about 1 mile west of Highgate, May 20, 1939 (in anthesis), no. 9841.

When this most interesting plant was discovered in 1938 it was identified, in spite of departure in habit of the terminal umbel, with *Scirpus fontinalis* of calcareous wooded springheads of Georgia, about 450 miles to the southwest (see RHODORA, xl. 376, 382 and 396 (1938)). We now find the Virginian plant thoroughly typical and always to be expected in the calcareous springheads and floodplains of creeks throughout the belt of fossiliferous Miocene marl-beds of Surry County; it presumably extends into Prince George at the west and into Isle of Wight at the east. All the collections are consistent in having strongly ascending rays of the terminal umbel and the latter is rather denser than in the Georgian plant, in which the rays are more elongate and strongly divergent (as shown in *Harper*, no. 2185), thus suggesting the inflorescence of *S. divaricatus.* I can find no appreciable differences in foliage, spikelets and achenes, the latter remarkable for their very prolonged beaks. See p. 492 and MAP 15.[1]

RHYNCHOSPORA MACROSTACHYA Torr. Very local in southeastern Virginia; besides Grimes's stations on Lake Drummond and on the Chickahominy River we know only the following. PRINCE GEORGE COUNTY: muddy tidal shore of James River, Jordan Point, no. 8983 (plants 1.8 m. high).

Throughout the area *Rhynchospora corniculata* abounds, and often simulates *R. macrostachya.* The luxuriant development of the latter in tidal mud of the James, where it is associated with such halophytic species as *Sagittaria falcata,* is noteworthy. In New England the species is confined to the most acid of peats. See p. 475.

R. PERPLEXA Britton. Recorded in 1938 as new to Virginia. To the stations there noted add the following. GREENSVILLE COUNTY: pond-hole in pine and oak woods near Three Creek, north of Emporia, no. 9282.

R. CADUCA Ell. Previously recorded from two stations only (in Norfolk and Sussex Counties). Now known as occasional colonies (often quite extensive) northward to YORK and GLOUCESTER COUNTIES and inland to SOUTHAMPTON COUNTY (many nos.). See p. 467.

R. TORREYANA Gray. Recorded in 1937 as new to Virginia. Now known in many sphagnous swales and bogs from CHESTERFIELD COUNTY to GREENSVILLE COUNTY (many nos.).

SCLERIA MINOR (Britton) W. Stone. Local range extended to GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, nos. 8615, 9842.

S. SETACEA Poir. Rather general in sphagnous boggy areas inland to AMELIA COUNTY (north of Winterham, no. 9000) and DINWIDDIE and GREENSVILLE COUNTIES (several nos.).

CAREX BROMOIDES Schkuhr. Reported in 1938 only from a single station on the Coastal Plain. Rather frequent in calcareous alluvium and springy swamps of SURRY, SUSSEX and DINWIDDIE COUNTIES.

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[1] Since this went to press, Mr. Alan A. Beetle has kindly called to my attention the fact that a collection from Murrell's Inlet, Georgetown County, South Carolina, *Weatherby & Griscom,* no. 16448 (as *S. divaricatus*) is good *S. fontinalis.* He also notes, as in the National Herbarium at Washington, other sheets in the covers of *S. divaricatus* but really belonging to *S. fontinalis:* one from Springfield, Alabama (*Mohr*), another from Alexandria Louisiana (without other data). Similarly misidentified, I find in the Gray Herbarium two old sheets (without full data) from Florida and a Louisiana specimen from Josiah Hale. The range of *S. fontinalis* should be indicated on MAP 15 as extending from northern Florida to Louisiana, north into Georgia and eastern South Carolina.

*C. Jamesii Schwein. Surry County: rich calcareous wooded slopes along James River, Claremont Wharf, no. 9862.

Not seen by Mackenzie (N. Am. Fl.) from Virginia, its general range southward being through West Virginia, Kentucky, Tennessee and Missouri.

C. striatula Michx. To the single Coastal Plain station (in Sussex County) recorded in 1937 add the following: Dinwiddie County: dry hickory and oak woods 2–3 miles east of Dinwiddie, no. 9871. Southampton County: dry mixed woods by Applewhite Church, no. 10,161.

*C. amphibola Steud. Surry County: rich calcareous wooded slopes along James River, Claremont Wharf, no. 9874. Dinwiddie County: rich deciduous woods about old marl-pits east of Burgess Station, no. 9873. See p. 492.

Not recorded by Mackenzie (N. Am. Fl.) from between Maryland and South Carolina.

C. gracillima Schwein. Our only Coastal Plain station in Dinwiddie County: alluvial woods and thickets along Hatcher's Run, north of Burgess, no. 9680.

C. oxylepis Torr. & Hook. To the station in Chesterfield County recorded in 1937 add the following. Dinwiddie County: rich deciduous woods about old marl-pits east of Burgess Station, no. 9861. Sussex County: rich deciduous woods along Nottoway River, southwest of Homeville, no. 10,167. See p. 492.

*C. venusta Dew. Greensville County: sphagnous bog about 1 mile northwest of Dahlia, nos. 9880, 10,165. Southampton County: sphagnous swampy woods southwest of Applewhite Church, no. 10,166.

First from north of North Carolina. See p. 491.

C. venusta Dewey, var. minor Boeckel. (*C. oblita* Steud.). To the single station in Norfolk County, recorded in 1935, add the following. Prince George County: sphagnous boggy swale east of Gary's Church, no. 9881; seen but not collected in bog at head of Poo Run. Dinwiddie County: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9879. Southampton County: wooded swamp about 7 miles south of Franklin, no. 9882. See p. 491.

C. caroliniana Schwein. Recorded in 1938 from a single station only. Now found to be common (mature in May, consequently not previously recognized in early April and mid-June) from Dinwiddie County to Surry County, south to Greensville and Southampton Counties.

C. Walteriana Bailey, var. brevis Bailey. To the two stations in Princess Anne County recorded in 1935 add the following. Sussex County: bushy swale south of Stony Creek, no. 9004. Southampton

County: wooded swamp about 7 miles south of Franklin, no. 9884. See p. 490.

*C. verrucosa Muhl. Southampton County: swampy woods southwest of Branchville, no. 9286.

Not recorded by Mackenzie (N. Am. Fl.) from north of South Carolina.

*C. hyalinopsis Steud. (*C. riparia*, var. *impressa* S. H. Wright). Surry County: sandy tidal shore of Crouch Creek, east of Scotland, no. 8620.

Not seen by Mackenzie (N. Am. Fl.) from between North Carolina and southern New Jersey. See p. 467.

*C. lupuliformis Sartw. York County: swampy woods east of Tabb's, no. 8623.

First from south of Delaware.

*Xyris platylepis Chapm. To the doubtful report from Charles City County by Mrs. Erlanson add the following, without doubt. Henrico County: sphagnous springy swales and boggy thickets bordering Whiteoak Swamp, west of Elko Station, nos. 9007, 9008. Nansemond County: seeping bank of ditch at margin of woods, about 2 miles southeast of Cleopus, no. 9009. Greensville County: wooded swamp along Mill Creek, about 1 mile north of Skipper's, no. 8636; sphagnous bog about 1 mile northwest of Dahlia, nos. 8637, 9551.

Very characteristic in its large bulbous bases covered by short castaneous scales and in its broad spiraling leaves. See pp. 470, 473.

X. Curtissii Malme. To the first Virginian station (first station recorded from north of Georgia), recorded in 1937 in Sussex County, add the following. Dinwiddie County: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9011. Greensville County: sphagnous bog about 1 mile northwest of Dahlia, no. 8635. See pp. 470, 473.

X. flexuosa Muhl. (*X. arenicola* Small). To the first Virginian station (pine barrens, Isle of Wight County), recorded in 1937, add the following. Dinwiddie County: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9010. Greensville County: sphagnous bog about 1 mile northwest of Dahlia, no. 8638. Nansemond County: sandy and peaty pine barrens east of Cox Landing, south of South Quay, no. 10,566, very abundant. See p. 472.

*Juncus secundus Beauv. Sussex County: new roadside gravel near Nottoway River, southeast of Homeville, no. 10,184. Greensville County: fallow argillaceous field and exsiccated pond-hole, north of Skipper's, no. 9888. See p. 490.

J. caesariensis Coville (*J. asper* Engelm.). To the Virginian station (in James City County) of Grimes add the following in

Henrico County: open wet sandy and peaty *Magnolia* thicket in Whiteoak Swamp, east of Elko Station, no. 8650; sphagnous springy swales bordering Whiteoak Swamp, west of Elko Station, nos. 9016, 9292.

A very extensive colony 25 miles northwest of Grimes's station. See pp. 470, 473.

Helonias bullata L. Henrico County: bushy sphagnous springy swales bordering Whiteoak Swamp, west of Elko Station, no. 9295.

Our first Coastal Plain station in Virginia, the plant associated with *Parnassia asarifolia, Juncus caesariensis* and other species far-isolated from their better known centers of occurrence. See p. 478.

Chamaelirium luteum (L.) Gray. Greensville County: dry pine and oak woods and thickets near Three Creek, north of Emporia, very local, no. 9296. Southampton County: rich mixed and deciduous woods near Nottoway River, above Carey Bridge, no. 10,198. Sussex County: badly broken and eaten specimens once seen (in 1936) at border of woods east of Homeville.

Certainly very local on the Virginian Coastal Plain. See p. 485.

Amianthium Muscaetoxicum (Walt.) Gray. Southampton County: border of wooded swamp about 7 miles south of Franklin, nos. 9892, 10,199. Nansemond County: sphagnous savannah-like swale east of Cherry Grove, south of South Quay, no. 10,578, abundant.

Very definite stations on the Virginian Coastal Plain. In Rhodora, xxxix. 364 and 399 (1937), I recorded a station south of Factory Hill in Nansemond County. Retravel of the road shows that the latter station is a few rods over the state line in Gates County, North Carolina! See p. 490.

*Zigadenus angustifolius (Michx.) Wats. (*Tracyanthus angustifolius* (Michx.) Small.). Greensville County: sphagnous bog about 1 mile northwest of Dahlia, nos. 6565, 9891, only a few plants.

Extension north from North Carolina. See pp. 470, 491 and map 6.

Z. glaberrimus Michx. Range extended inland to Dinwiddie County: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9026; seen in some abundance some miles northwest of Burgess.

Uvularia **pudica** (Walt.) comb. nov. *Anonymos pudica* Walt., Fl. Carol. 123 (1788). *U. puberula* Michx. Fl. Bor.-Am. i. 199 (1803).

U. pudica (Walt.) Fern., var. **nitida** (Britton), comb. nov. *Oakesia sessilifolia*, var. (?) *nitida* Britton in Trans. N. Y. Acad. Sci. ix. 13 (1889). *U. sessilifolia nitida* (Britton) Morong in Mem. Torr. Bot. Cl. v. 111 (1894). *U. nitida* (Britton) Mackenzie in Torreya, viii. 14

(1908). *U. puberula*, var. *nitida* (Britton) Fernald in RHODORA, xxxvii. 407, t. 392, figs. 2, 3 and 6 (1935).

Walter's unnamed but clearly defined genus *Anonymos*,[1] *Erythronio affinis* in his Fl. Carol. 122 (1788), had in five paragraphs a good diagnosis. His generic characters, with "*capsula* turbinato-triangularis . . . Sem. *bina* in singulo loculamento depresso-globosa, ab uno latere cincta membrana vesiculari" is closely similar to Michaux's characterization of *Uvularia*, with "Cap. . . . trigona, angulis compressis . . . Sem. . . . abortatione solito paucissima; irregulariter subglobosa; ad hilum arilata," and the single species, *Anonymos pudica*, was clearly described:

> *pudic*. 1. radice fibrosa, caule pedali, foliis amplexicaulibus alternatis ovatis, floribus terminalibus, flavescentibus, plerumque solitariis, cernuis.

Examining Walter's herbarium in 1839, Asa Gray recorded: "*Anonymos* (*Erythronio* aff.) *pudica!* = *Uvularia puberula!* Leaves with a long slender acumination [such as is frequently accentuated in pressed specimens through puckering of the upper half of the leaf], flowers & fruit none: two slender terminal peduncles." The original description of *Uvularia puberula* Michx. was very brief, but it stressed the plant "foliis . . . ovalibus, basi rotundatis, subamplexicaulibus". There is no reason to doubt Gray's identification; there is every reason to accept it. *U. pudica* (*U. puberula*) is frequent on the coastal plain of Virginia and the Carolinas and I have before me very characteristic material from Santee Canal. Walter's Flora was written "ad Ripas Fluvii Santee".

In southeastern Virginia U. PUDICA (typical) is occasional in woods from eastern Nansemond County westward, passing to

*Var. NITIDA (Britton) Fern. supra. SOUTHAMPTON COUNTY: dry sandy open pine and oak woods and thickets 6 to 7 miles south of

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[1] I realize that Walter's beautifully described new genera, which, in his modesty, he hesitated to name and called *Anonymos*, are subject to ridicule by some of the younger English botanists; but, as repeatedly pointed out, as for instance by Blake in RHODORA, xvii. 130 (1915), the species under these nameless but clearly defined genera are perfectly valid *as species*. The fact that Blake in 1915 did not find some types of Walter's which were studied by Gray in 1839 is significant. In his manuscript of a full century ago Gray noted under *Clematis holosericea*, which Pursh described from a specimen said to be in "*Herb. Walter*": "There is nothing in Walter's herb. to correspond to this . . . Pursh must have carried off the specimen, or part of it." Then follows in another ink: "P. S. He has taken it all to herb. Lambert—which see." Pursh and his patron, Lambert, were not the only early botanists who felt that Walter's plants would be of better service elsewhere (for instance, see note on *Lobelia glandulosa* by Fernald & Griscom, RHODORA, xxxix. 497).

Franklin, no. 9895. Nansemond County: sandy and peaty pine barrens east of Cox Landing, south of South Quay, no. 10,580.

First from south of New Jersey.

*Hemerocallis fulva L., var. Kwanso Regel. Southampton County: well established by roadside near Oak Grove School, no. 8202.

Single-flowered *Hemerocallis fulva* is one of the abundant roadside plants; we have not before found var. *Kwanso* established as a wild plant.

Lilium carolinianum Michx. Greensville County: open thickets, clearings and borders of woods southeast of Emporia, no. 9298, scarce; clearing at border of dry pine and oak woods, south of Skipper's, in some abundance, no. 9557. Sussex County: border of dry mixed woods east of Grizzard, very scarce, no. 10,202; border of dry woods northwest of Jarratt, no. 11,005. Prince George County: border of dry pine and oak woods 3–5 miles north of Disputanta, no. 11,004.

Characteristic of high altitudes in the Blue Ridge and the Alleghenies. See p. 485 and map 13.

Aletris aurea Walt. To the few recorded Virginian stations add the following. Greensville County: peaty openings bordering wooded swamp along Mill Creek, about 1 mile north of Skipper's, no. 8669; sphagnous bog about 1 mile northwest of Dahlia, no. 8670 (racemes up to 3 dm. long). Brunswick County: argillaceous swale about 5 miles east of Edgerton, no. 8671. See p. 472.

*Dioscorea Batatas Dcne. Surry County: established along roadside, Spring Grove, no. 9559.

Burmannia biflora L. Greensville County: peaty openings bordering wooded swamp along Mill Creek, about 1 mile north of Skipper's, no. 9561; sphagnous bog about 1 mile northwest of Dahlia, nos. 8676, 9035, 9303. Southampton County: mossy pineland southeast of Sands, no. 9560.

With the exception of a collection (locality not noted) by Nuttall (Herb. Phil. Acad.) *Burmannia biflora* has apparently been unknown in Virginia since the type was collected more than two centuries ago by Clayton. Britton (*Man.*) gives the flowering period as "Sept.–Nov." In the bog near Dahlia we had unexcelled opportunity to observe the plant, which there makes an interrupted porcelain-blue film beneath half-an-acre of *Lachnocaulon anceps, Panicum strigosum* and other characteristic sphagnophilous plants. The first flowers were collected on July 15; on August 20 the plant was generally in flower; and on September 18 it was mature, the taller fruiting plants

1.7 dm. high, with forking inflorescences up to 3.2 cm. long. On October 14 it seemed not to have changed, though on that date it was just flowering north of Skippers. On December 31 the bog had become severely frosted and *Burmannia* was dry and scarcely recognizable. See pp. 472, 485, 488, 491 and map 7.

Spiranthes ovalis Lindl. To the stations already recorded (in Henrico, Sussex and Southampton Counties) add one in Dinwiddie County: rich woods about an old marl-pit, about 2 miles east of Burgess Station, no. 9563. See pp. 486, 492.

Ponthieva racemosa (Walt.) Mohr. Add another very extensive station in Surry County: rich deciduous woods 1½ miles east of Blizzard's Corners, no. 9305. See p. 477.

Corallorrhiza Wisteriana Conrad. Surry County: rich deciduous woods, ravine northwest of Bacon's Castle, no. 9707.

The statement on p. 489, that our station for *Corallorrhiza Wisteriana* is the first in Virginia, is incorrect. Dr. Wherry very kindly writes me of stations in the uplands of the state, in Fairfax and London Counties.

Malaxis Bayardi Fern. To the original station (in Nansemond County) add another on the Coastal Plain. Greensville County: dry pine and oak woods, about 1 mile north of Skipper's, no. 8906, very scarce. See p. 469.

In neighboring woodlands all the plants seen were of the relatively frequent *Malaxis uniflora* Michx.

Aplectrum hyemale (Muhl.) Torr. To the Coastal Plain stations (in Surry County) already noted add others in Prince George and Dinwiddie Counties: all in highly calcareous areas. See pp. 486, 489.

Salix longipes Shuttlew., var. venulosa (Anderss.) Schneider. To the stations recorded in Norfolk County (in 1937) add the following. Nansemond County: border of damp woods, South Quay, no. 9567. Greensville County: shallow pond-hole in woods, just north of Dahlia, no. 8691 (large trees, the foliage with balsamic odor); pond-hole in pine and oak woods near Three Creek, north of Emporia, no. 9309 (large trees).

The slenderest-leaved extreme, closely matching the narrowest-leaved twigs of *Curtiss*, no. 5826, from Jacksonville, Florida, identified by Schneider.

Castanea neglecta Dode. Nansemond County: sandy woods by Blackwater River, George's Bend, south of South Quay, no. 10,613. Surry County: rich deciduous woods 1½ miles east of Blizzard's Corners, no. 9312. Dinwiddie County: border of dry sandy woods east of Burgess, no. 10,232. Southampton County: mixed woods near Nottoway River, above Carey's Bridge, no. 10,612.

Although often called a hybrid of *Castanea dentata* and *C. pumila*, the shrubs east of Burgess are several miles from the nearest trees of *C. dentata* which used to be known to our driver and assistant, Leonard Birdsall, on whose land *C. neglecta* occurs. At the Surry County station both *C. dentata* and *C. pumila* were in the vicinity; but the shrubs in Nansemond seem to be removed by very many miles from the eastern limit in the state of *C. dentata*. *C. neglecta* appears to be a definite species.

QUERCUS CINEREA Michx. Range extended northwestward in SOUTHAMPTON COUNTY: dry white sand in oak and pine woods and clearings bordering Assamoosick Swamp, south of Sebrell, no. 9911. Found in NANSEMOND COUNTY: sandy pine barrens east of Cherry Grove, south of South Quay, no. 10,619.

POLYGONUM TENUE Michx. To the station already reported, in Isle of Wight County, add one in CAROLINE COUNTY: border of sandy woods of *Pinus virginiana*, about 1½ miles northwest of Bowling Green, no. 9041.

P. LAPATHIFOLIUM L. CHESTERFIELD COUNTY: dominant on silt of Appomattox River, Pocahontas, no. 9318.

The only time seen by us in eastern Virginia.

*P. PENSYLVANICUM L., var. DURUM Stanford in RHODORA, xxvii. 180 (1925). ISLE OF WIGHT COUNTY: weed in cultivated field, north of Walters, no. 8705. GREENSVILLE COUNTY: border of cultivated field, about 1 mile northwest of Dahlia, no. 8704.

Extension north from South Carolina; presumably generally distributed in southeastern Virginia. Quickly distinguished by the nearly or quite glandless appressed-strigose stiff peduncles. See p. 469.

P. ROBUSTIUS (Small) Fernald. PRINCE GEORGE COUNTY: muddy tidal shore of James River, Jordan Point, no. 9043.

The glandular dots which appear on the perianth when dry are largely if not wholly post-mortem.

ACNIDA CANNABINA L. Extending up the James at least to PRINCE GEORGE COUNTY.

*MIRABILIS JALAPA L. YORK COUNTY: abundant about a dump, in the woods southeast of Yorktown, no. 8706.

*STELLARIA PROSTRATA Baldw. (*Alsine Baldwinii* Small.). GREENSVILLE COUNTY: forming close yellowish-green mats in lawns and grass-lands, Emporia, no. 9722. SOUTHAMPTON COUNTY: similar habitat, Courtland, no. 9723; also seen in Franklin.

Range extended northward from Georgia. In its closely depressed yellow-green mats and promptly disarticulating mature small calices and capsules *Stellaria prostrata* is very distinct. In southeastern

Virginia it is becoming a very objectionable weed of lawns, completely monopolizing the ground, maturing in late March and early April and by May leaving naked areas. See p. 489.

*CERASTIUM BRACHYPODUM (Engelm.) Robinson. DINWIDDIE COUNTY: plowed land at border of rich woods, Cattail Creek, south of Burgess, no. 9718.

First north of Georgia. A characteristic species of the Gulf Coastal Plain and Mississippi Basin, thence west to Arizona and east to Georgia. At Cattail Creek apparently native, though intruded upon and stimulated by plowing of the area. Not found away from the border of the woods nor showing a tendency to spread into the cultivated field. See p. 489.

*C. BRACHYPETALUM Desp. SOUTHAMPTON COUNTY: open sandy roadside 6–7 miles south of Franklin, no. 9922.

A very distinct European species, the bracteal leaves ending in tufts of trichomes. The first record from North America. See p. 490.

*C. VULGATUM L., var. HOLOSTEOIDES Fries. SOUTHAMPTON COUNTY: roadsides and waste places, Courtland, no. 9921.

New to North America. A very striking plant, with only minutely hirtellous stems and nearly glabrous blue-green obtuse leaves. See p. 490.

RANUNCULUS LAXICAULIS (T. & G.) Darby. *R. oblongifolius* of authors generally, not Ell.

The very slender plant of the South, which regularly passes as *Ranunculus oblongifolius*, has filiform loosely sprawling stems, these weak stems and the diffuse panicle soon proliferating and developing flabelliform leafy divergent offshoots and wide-spreading repent stolons; its oblong petals conspicuously exceed the sepals, and the subglobose achenes have a subulate (soon deciduous) style.

When Elliott (Sk. ii. 58) described his *Ranunculus oblongifolius* he doubted its distinctness from *R. pusillus* Pursh. His diagnosis and comment were as follows:

> *Root* fibrous. *Stem* 1–2 feet high, generally erect or declining, glabrous, smooth, branching and from the smallness of the upper leaves appearing naked towards the summit. *Leaves* oblong, irregularly denticulated, glabrous, the lower on petioles 1–3 inches long. *Peduncles* 10–15 lines long. *Calyx* at first closely appressed. *Petals* rather longer than the calyx. *Seeds* smooth without a vestige of the style, globose, with a slight longitudinal cicatrice.
>
> This species which I propose with hesitation, differs from the preceding [*R. pusillus*] much in size, and appears to differ in the corolla and seed. It requires however, to be further examined.

> Grows in ditches and wet places. Collected 12 miles from Savannah on the Augusta road. St. John's Berkley. Dr. Macbride.
>
> Flowers May–July.

The diagnosis suggests *Ranunculus pusillus* rather than the very lax plant with few loosely paniculate long-stalked and relatively large flowers which regularly passes as *R. oblongifolius*. It was, therefore, not wholly surprising, when Mr. Long and I studied Elliott's material at Charleston in early April, to find that the type of *R. oblongifolius* is characteristic large material of *R. pusillus* Pursh.

For *R. oblongifolius* of authors the best name is apparently *R. laxicaulis* (T. & G.) Darby (1855). No one who is familiar with so-called *R. oblongifolius* would balk at the propriety of the name *laxicaulis;* it is most fitting. *R. laxicaulis* started as *R. Flammula,*

> β. *laxicaulis:* stem weak, much branched; leaves all entire; lowest ones elliptical-oblong, upper ones linear; petals oblong, attenuate at the base, three times as long as the calyx . . .
>
> β. Milledgeville, Georgia. *Dr. Boykin.* July.— . . . Peduncles 1–2 inches long. Flowers 4–5 lines in diameter.—T. & G. Fl. i. 16 (1838).

Darby's fuller account was as follows:

> R. laxicaúlis, (T. & G.) *Stem* weak, much branched, declined, rooting at the lower joints, glabrous. *Leaves* smooth, linear-lanceolate, or elliptical, oblong; upper ones linear. *Peduncles* opposite the leaves, 1–2 inches long. *Carpels* with a subulate beak in a globular head. *Petals* much longer than the calyx, slender at the base.— ♄ . Ditches, Car. and Geo. July.—Darby, Bot. So. States, 204 (1855).

Both the original Torrey & Gray account of Boykin's plant and the fuller account by Darby are perfect descriptions of the plant erroneously passing as *R. oblongifolius*. This I intimated in 1936 (Rhodora, xxxviii. 175), when I showed that the name *R. laxicaulis* certainly does not belong to *R. ambigens* Wats. Although, as then stated, the type can not be found, the descriptions are so convincing to one who has followed through the surrounding vegetation the "weak, much branched, declined" stems, "rooting at the lower joints," that I now have no hesitation in taking up for *R. oblongifolius* of authors, not Ell. the appropriate name R. LAXICAULIS (T. & G.) Darby.

In Virginia RANUNCULUS LAXICAULIS is local in HENRICO, ISLE OF WIGHT, SUSSEX and SOUTHAMPTON COUNTIES (many nos.).

R. MICRANTHUS Nutt. PRINCE GEORGE COUNTY: base of calcareous wooded slope, City Point, no. 9724; rich wooded ravine southeast of Hopewell, no. 9725; rich deciduous woods, Coggins Point, no. 9927. See p. 488.

The plant of rich calcareous woods in eastern Virginia is strikingly unlike that of thin rocky soils in New England, New York, northern New Jersey and Pennsylvania, being of a dark green color, with lustrous leaf-surfaces, the simple basal leaves usually subcordate to strongly cordate; whereas the northern plant of thin soils is paler green, with opaque foliage, the simple basal blades merely subtruncate to cuneate at base. The plant with lustrous leaves is coarser and the teeth of its basal leaves are broadly flattened or squared across the top but the teeth of the simple basal leaves of the smaller opaque and pale-green northern plant are more prolonged and short-ovate or dentate.

Nuttall described *Ranunculus micranthus* from Arkansas. The type, preserved in the Gray Herbarium, is like the plant of Prince George County. The smaller plant with more truncate-based and crenate-dentate simple basal leaves is

R. MICRANTHUS Nutt., var. **delitescens** (Greene), comb. nov. *R. delitescens* Greene in Am. Midl. Nat. iii. 333 (1914).

Another variety, from Indiana, with deeply cordate simple basal leaves but with the teeth much prolonged, is

R. MICRANTHUS Nutt., var. **cymbalistes** (Greene), comb. nov. *R. cymbalistes* Greene, l. c. (1914).

R. CAROLINIANUS DC. *R. palmatus* of recent Am. auth., not Ell.

One of the most definite species of the southeastern Coastal Plain is the slender and finally strongly repent plant which passes as *Ranunculus palmatus*. Separated from its allies (*R. septentrionalis* Poir. and *R. hispidus* Michx.) by its short (3.5–5 mm. long) and promptly reflexed glabrous sepals, its relatively short and narrow oblong petals, and by the few very large mature achenes (with bodies 3.7–5 mm. long), with the broad (0.5–1 mm.) marginal wing separated from the faces by high acute ridges, the species is further distinguished from the other tardily repent species, *R. septentrionalis*, by its very slender habit and small smoothish leaves, and heads with only 10–20 achenes. In the southern so-called *R. palmatus* the best-developed basal leaves have 3 mostly petiolulate rhombic-ovate, cuneate 3-cleft or 3-divided and sharply toothed leaflets.

In view of the very definite characters of this southern Coastal Plain type, it is, therefore, important to note of Elliott's account (Sk. ii. 61, with important notes on p. 62) that his *R. palmatus*, published with a mark of doubt, was hairy, the leaves "those of the root palmately 3 parted" and that (on p. 62) he specifically stated that "in the R. palmatus, the leaves as far as I have seen them, are never divided to the base, and are very hairy". In other words Elliott's description calls for something quite different from *R. palmatus* sensu American authors (not Elliott). It was, consequently, reassuring, when Mr. Long and I studied Elliott's type at Charleston, to find that it is one of the states of *R. hispidus* Michx. with appressed pubescence. There are abundant achenes and these are of *R. hispidus*.

The plant nowadays incorrectly called *R. palmatus* is *R. carolinianus* DC. Syst. i. 292 (1817), with "foliis glabriusculis trisectis trilobisve, lobis ovatis subincisis dentatis, calyce glabriusculo reflexo petalis paulò breviore," from "Carolina inferiore". Elliott copied DeCandolle's description of approximately the same date but he did not know the plant, merely noting:

> Radical leaves trisected or three lobed, segments and lobes ovate, obtuse, and obtusely toothed. DeCand.
>
> This plant appears to resemble the preceeding species [*R. palmatus*], but in the R. palmatus, the leaves as far as I have seen them, are never divided to the base, and are very hairy.

The basal leaves, the smooth and reflexed sepals and the "petalis potiùs oblongis quàm obovatis" of DeCandolle's account of *Ranunculus carolinianus* are conclusive. Furthermore, Asa Gray, examining the type at Geneva, made the memorandum: "I have no form so slender and few- and large-fruited as the *R. Carolinianus* DC. *R. palmatus* Ell. in Hb. Torr. from Chapman.—Feb., 1886." No material of this southern species was in the Gray Herbarium during Gray's lifetime. *R. palmatus* sensu auth., not Ell. becomes, then, R. CAROLINIANUS DC.

In Virginia RANUNCULUS CAROLINIANUS is found in low woods, on wet bottomlands and by streams in GLOUCESTER, NORFOLK, PRINCE GEORGE and SOUTHAMPTON COUNTIES (many nos.).

RANUNCULUS SARDOUS Crantz. The small station previously reported doubtless had its origin from a very extensive one in SOUTHAMPTON COUNTY: very abundant weed, not eaten by cattle, in pastures, on roadsides and in fields about Franklin, no. 9933.

Destined to become a pernicious weed unless vigorous measures for several years are taken to eradicate it.

ANEMONELLA THALICTROIDES (L.) Spach. Range extended eastward to SURRY COUNTY: rich calcareous woods, ravine 1½ miles north of Surry, no. 9727.

THALICTRUM REVOLUTUM DC. To the stations along the James add the following. DINWIDDIE COUNTY: rich deciduous woods about old marl-pits east of Burgess Station, no. 9934. SUSSEX COUNTY: dry woods bordering Assamoosick Swamp, about 2 miles northeast of Homeville, no. 10,263.

T. MACROSTYLUM (Shuttlew.) Small & Heller. HENRICO COUNTY: sphagnous springy swales bordering Whiteoak Swamp, west of Elko Station, nos. 8710, 8711, 9050. JAMES CITY COUNTY: wooded flood-plain, Longhill, *Grimes*, no. 4086 (as *T. polygamum*). See p. 470.

Chiefly a plant of the upland.

CLEMATIS PANICULATA Thunb. Abundantly naturalized in damp thickets and swamps and on shores, PRINCE GEORGE, GREENSVILLE and ISLE OF WIGHT COUNTIES (many nos.).

*C. PANICULATA, var. DIOSCOREAEFOLIA (Lév. & Vaniot) Rehder. PRINCE GEORGE COUNTY: abundant along the James from City Point to Jordan Point, nos. 8714, 9052.

*BERBERIS THUNBERGII DC. CHESTERFIELD COUNTY: abundantly naturalized, alluvial woods and clearings, Pocahontas, no. 9324.

CARDAMINE DOUGLASSII (Torr.) Britton. PRINCE GEORGE COUNTY: rich bottomland woods along Wall's Creek, no. 9736. SURRY COUNTY: bottomland woods, calcareous ravine, 1½ miles north of Surry, nos. 9737 (petals deep purple), 9738 (petals paler). See p. 489.

*C. PENSYLVANICA Muhl., var. BRITTONIANA Farwell. Characteristic of wooded springheads and wooded brooksides, especially in calcareous areas. PRINCE GEORGE COUNTY: alluvial woods by Wall's Run, northwest of Garysville, no. 9937. SURRY COUNTY: springhead, bottomland woods in calcareous ravine 1½ miles north of Surry, no. 9739. NORFOLK COUNTY: border of gum swamp west of Cedar Hill, *Fernald & Griscom*, no. 4420. PRINCESS ANNE COUNTY: wooded (gum) swamp, Oceana, *Fernald & Griscom*, no. 4419.

*CAPSELLA RUBELLA Reut. Frequent or common in waste places and on roadsides (several nos.).

× SARRACENIA CATESBAEI Ell. GREENSVILLE COUNTY: with the two parents, sphagnous bog about 1 mile northwest of Dahlia. no. 8716. See p. 472.

DROSERA BREVIFOLIA Pursh. To the three records (from Nansemond, Elizabeth City and Greensville Counties) already noted add the following. DINWIDDIE COUNTY: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9574; wet argillaceous and siliceous depressions north of Burgess Station, no. 9939. SUSSEX COUNTY: sandy and peaty depression (exsiccated shallow pond) about 4 miles northwest of Homeville, no. 9940; peaty and argillaceous swale north of Littleton, no. 9941. NANSEMOND COUNTY: seeping bank of ditch at margin of woods, about 2 miles southeast of Cleopus, no. 9573.

Drosera brevifolia is probably rather common in the area but usually overlooked. Its flowering season is very limited, in May (possibly early June); and the large (1–1.4 cm. broad) white flowers close promptly at noon. Through the hot summer the shrivelled plants are very inconspicuous but in October the new deep-red rosettes appear in profusion. See p. 487.

Saxifraga virginiensis Michx. Local range extended well into the Coastal Plain in Surry County: rich wooded ravine northwest of Bacon's Castle.

Deutzia scabra Thunb. Surry County: roadside thicket, Claremont Wharf, no. 9942.

Pyrus serotina Rehder. Rather frequent at borders of woods in Dinwiddie, Surry and Southampton Counties (several nos.).

Rubus phoenicolasius Maxim. Chesterfield County: thickets, Pocahontas, no. 9335.

Potentilla recta L. Railroad banks and waste places, becoming frequent, Dinwiddie County to Greensville County (several nos.).

Aeschynomene virginica (L.) BSP. Prince George County: border of rich alluvial thicket back of sand-beach of James River, Jordan Point, no. 9343. Surry County: sandy beach of James River, at mouth of Crouch Creek, east of Scotland, nos. 8724, 9344, 9580. James City County: tidal shore, Back River, opposite Jamestown Island, no. 11,052. Charles City County: sandy tidal shore of Chickahominy River, Ferry Point, no. 11,053.

Reinstatement of an interesting plant to the flora of the state. Apparently not previously known in Virginia since the collection of the type by Clayton. See pp. 466 and 475 and map 1, also Rhodora, xxxix. 473 (1937).

*Desmodium ochroleucum M. A. Curtis. Caroline County: border of sandy woods of *Pinus virginiana,* about 1½ miles northwest of Bowling Green, no. 9066. Sussex County: dry sandy hickory and oak woods, Burt, no. 6237.

One of the very rare species of the genus, thoroughly distinct in its creamy petals, changing to yellowish, and in its twisted and not always clearly articulated segments. See p. 474.

D. rhombifolium (Ell.) DC. To the records from Norfolk and Isle of Wight Counties add the following from Southampton County: border of dry sandy woods, Mars Hill Church, no. 9067; dry sandy open pine and oak woods 6 to 7 miles south of Franklin, no. 8728.

Lathyrus hirsutus L. Recorded in Rhodora, xxxix. 433 (1937) as new to Virginia. Now rather common in Henrico, Dinwiddie, Prince George and Surry Counties (many nos.).

*Apios americana Medikus, var. **turrigera**, var. nov. (tab. 575, fig. 1 et 2), racemis laxis lanceolato- vel ovoideo-attenuatis, apice prolongatis.—Southeastern and central United States, apparently local. The following specimens are before me. Virginia: rich alluvial woods and thickets back of sand-beach of James River, below Sunken Meadow Beach, Surry County, August 23, 1938, *Fernald & Long*, no. 9079 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.). SOUTH CAROLINA: rich thicket, North Charleston, July 15, 1927, *Wiegand & Manning*, no. 1632; river-swamp east of Hendersonville, July 20, 1927, *Wiegand & Manning*, no. 1633. MISSISSIPPI: Ocean Springs, 1895, *J. Skehan*. LOUISIANA: old specimen ex herb. Torrey. ILLINOIS: Mt. Carmel, August 6, 1887, *M. B. Waite;* damp thicket, Calamas Lake, Macon County, July 22, 1915, *Clokey*. KANSAS: sandy woods, Pottawatomie County, July 23, 1895, *J. B. Norton*, no. 117. OKLAHOMA: Cherokee Nation, August 19, 1895, *J. W. Blankinship*.

Typical *Apios americana* has the compact and thick raceme strongly rounded at summit (FIG. 3). When mature, with flowers or fruits dropped, the rachis is 3–17 cm. long. In var. *turrigera* the denuded mature rachis is usually 1–2 dm. long. The plants of the latter variety, as well as those of forma *pilosa* Steyermark (1938), will be found in the herbaria under the synonymous names, *Glycine Apios* L. (1753), revived by Britton (1913); *Apios americana* Medikus (1787), revived by Rehder (1934); *A. tuberosa* Moench (1794) and *Apios Apios* (L.) Macmillan (1892). Had those who have devoted much time to juggling the names looked at the material they might have discovered that their names covered at least three different entities! See p. 475.

In PLATE 575, FIG. 1 shows an inflorescence, × 1, of *Apios americana*, var. *turrigera* from the TYPE, Sunken Meadow Beach, Virginia, *Fernald & Long*, no. 9079; FIG. 2, inflorescences, × 1, from east of Hendersonville, South Carolina, *Wiegand & Manning*, no. 1633. FIG. 3 is a characteristic inflorescence, × 1, of typical *A. americana*, from Fishers Island, New York, *St. John*, no. 2761.

PTELEA TRIFOLIATA L. Extending down the James well into the Coastal Plain. PRINCE GEORGE COUNTY: rich alluvial woods and thickets by James River, Upper Brandon, no. 9356. SURRY COUNTY: rich alluvial woods and thickets back of sand-beach of James River, Eastover, no. 8746. See p. 466.

*PONCIRUS TRIFOLIATA (L.) Raf. SURRY COUNTY: a single shrub 1 m. high at border of woods, west of Claremont, no. 9085.

It was surprising to find the Trifoliate Orange, so much employed as a fiercely spiny hedge-shrub farther south, hardy and in open woods of Surry County.

CROTONOPSIS ELLIPTICA Willd. CHESTERFIELD COUNTY: exsiccated sandy woodroad 1½ miles northwest of Ettrick, no. 9358. AMELIA COUNTY: border of argillaceous bog about 1 mile north of Winterham, no. 9090. See p. 474.

Certainly very local. The only Virginian material previously in the Gray Herbarium is from Fairfax County.

*Euphorbia ammanioides HBK. York County: sandy beach, York River, northwest of Yorktown, no. 7510 (distributed as *E. polygonifolia*).

Dr. Louis C. Wheeler calls my attention to this material, collected after dark and mistaken for the common sand-beach *Euphorbia polygonifolia*. It is *Chamaesyce Ingallsii* Small of "sand-dunes, Fla. to Tex."

*E. falcata L. Henrico County: railroad siding west of Elko Station, no. 9093. Previously collected (distributed without identification) in Bath County: along railroad, locally abundant, vicinity of Millsboro, September 17, 1907, *E. S. Steele.*

Both stations are on the Chesapeake and Ohio Railroad. This characteristic European species may be confidently looked for across the state, near this trunk line. See p. 473.

*Callitriche deflexa A. Br., var. Austini (Engelm.) Hegelm. (*C. Austini* Engelm.). Norfolk County: damp road in pine woods east of North Landing, May 6, 1935, *Fernald & Griscom*, no. 4447. Greensville County: fallow argillaceous field and exsiccated pond-hole, north of Skipper's, no. 9968. See p. 490.

Acer Negundo L. Extending down the James to Charles City County: alluvial woods along James River, Harrison Point, no. 9097.

*Parthenocissus quinquefolia (L.) Planch., forma hirsuta (Donn) Fernald in Rhodora, xli. 429 (1939). Prince George County: alluvial woods by Wall's Run, northwest of Garysville, no. 9979.

Vitis vulpina L. (*V. cordifolia* Michx.). See Rhodora, xli. 431 (1939). Rather frequent in rich or alluvial thickets eastward to Surry and Southampton Counties also on the shores of Back Bay in Princess Anne County (many nos.).

V. rotundifolia Michx.

On the wooded alluvial bottomland of Meherrin River, near Haley's Bridge, an area which had been deeply submerged during much of the summer of 1938, long pendulous and branching cord-like roots hung in September and October from trunks and branches 3 m. above the ground. These tough pendulous roots, up to 2.25 m. long, gave the aspect of festoons of *Tillandsia usneoides.*

*Sida rhombifolia L. Southampton County: roadsides and waste places, Courtland, nos. 8765 and 9098.

Extension north from North Carolina. See p. 469.

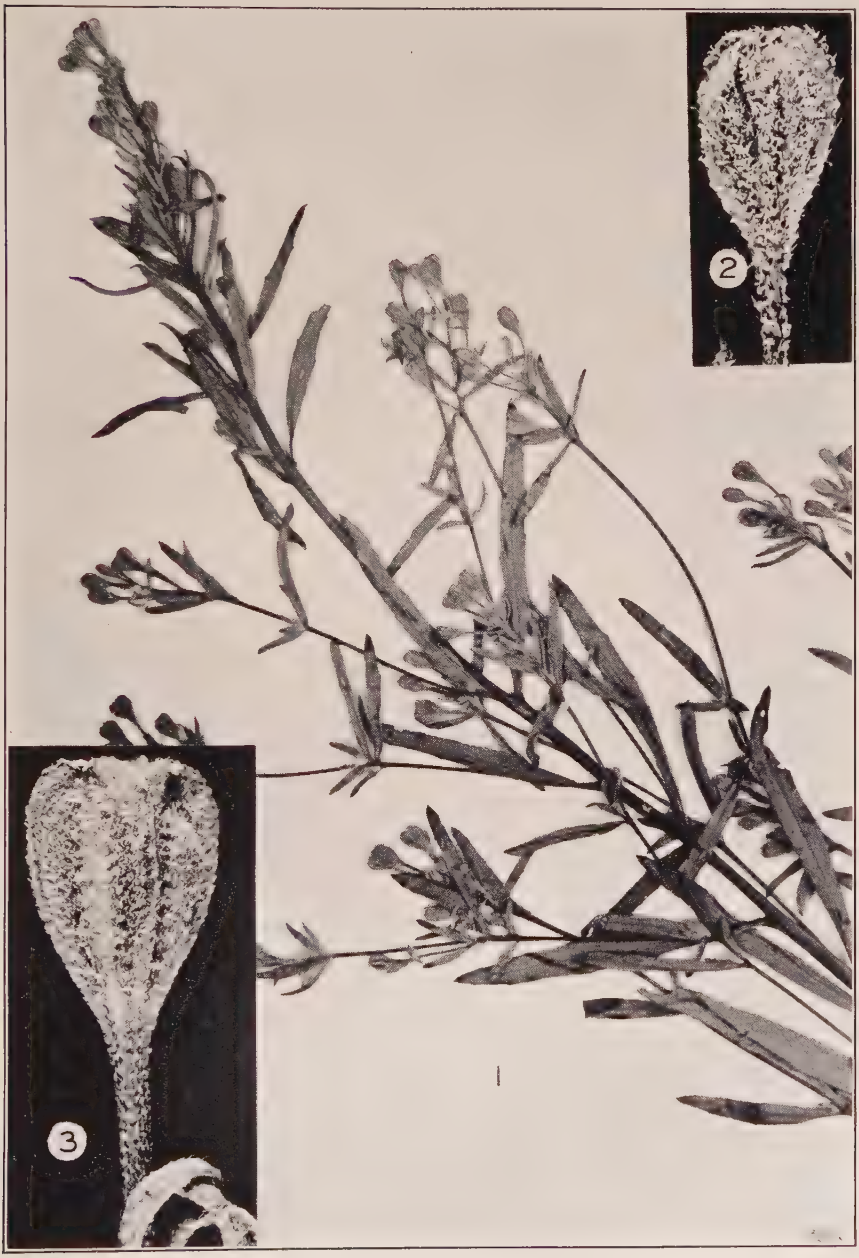

Photo. W. H. Hodge

OENOTHERA FRUTICOSA, var. MICROCARPA: FIG. 1, summit of TYPE, × 1; FIG. 2, capsule, × 5.
Var. SUBGLOBOSA: FIG. 3, capsule, × 5, from Georgia.

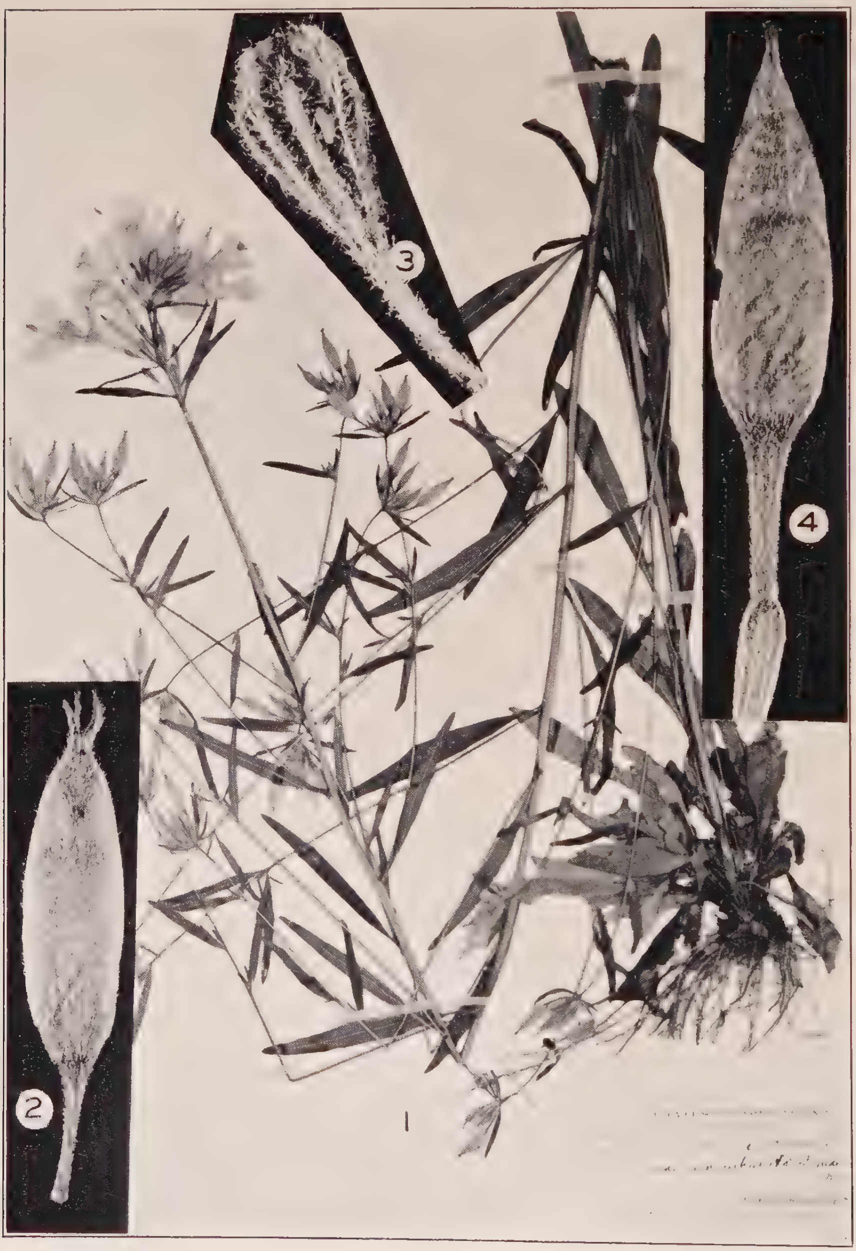

Photo. W. H. Hodge

OENOTHERA FRUTICOSA, var. UNGUICULATA: FIG. 1, TYPE, × 2/5; FIG. 2, bud, × 3, from TYPE; FIG. 3, capsule, × 5, from topotype.
Var. VERA: bud, × 3, from New Jersey.

*ALTHAEA OFFICINALIS L. MATHEWS COUNTY: border of brackish marsh near North, no. 8764, a large and thoroughly established colony.

First from south of Long Island. See p. 468.

HYPERICUM MUTILUM L., var. **parviflorum** (Willd.), comb. nov. *H. parviflorum* Willd. Sp. Pl. iii^2. 1456 (1803). Less common in southeastern Virginia than typical *H. mutilum.*

The type of *Hypericum mutilum* L., a Clayton plant, is the common southern extreme with the uppermost cauline and the rameal leaves ovate- to lance-deltoid, or gradually tapering from base to blunt summit. Var. *parviflorum* is the wider-ranging and usually more northern plant with all the leaves elliptic and gradually rounded at summit, described by Willdenow "Folia *elliptica obtusa sessilia basi subcordata*". In the South both extremes occur and northward to southern New England, central New York, Ohio, Illinois and Missouri there are some transitions. In northern New England, northern New York, Nova Scotia, New Brunswick, Quebec and the region westward only var. *parviflorum* seems to occur. Typical *H. mutilum* is often very tall, plants 7.5–9 dm. high being not infrequent. Var. *parviflorum* is usually lower and more delicate, though plants 6–7 dm. high occur.

H. DRUMMONDII (Grev. & Hook.) T. & G. GREENSVILLE COUNTY: disturbed soil of roadside bank, bordering clearing in pine and oak woods near Three Creek, north of Emporia, no. 9378; roadside bordering open thickets and borders of woods southeast of Emporia, no. 9379.

Primarily a species of the interior of the country and of the Gulf States, though occurring locally from Florida to southeastern Virginia. See p. 485.

LECHEA RACEMULOSA Michx.—In view of the scarcity of expanded flowers in the genus, it should be recorded that *Lechea racemulosa* was twice found in full anthesis at 10 *A. M.*, the large colonies being uniform in the great profusion of widely expanded flowers, seemingly all on the plant fully open at once! This was in July. In August of 1936, with Mr. Griscom we found *L. minor* thus fully flowering, also at about 10 *A. M.* Perhaps those who have sought the expanded flowers have looked too early in the day.

VIOLA STONEANA House. To the few recorded stations add one from GREENSVILLE COUNTY: rich deciduous woods by Metcalf Branch, east of Emporia, no. 9102.

V. LANCEOLATA L., var. VITTATA (Greene) Weath. & Grisc. To the recorded stations (in Sussex and Isle of Wight) add one in GREENSVILLE COUNTY: fallow argillaceous field and exsiccated pond-hole, north of Skipper's, no. 9986. See p. 490.

*V. PRIMULIFOLIA L., var. VILLOSA A. Eaton. DINWIDDIE COUNTY: peaty clearing north of Burgess Station, no. 9985. GREENSVILLE COUNTY: sandy plowed field about 1 mile northwest of Dahlia, no. 9755. Seen at other stations.

DIRCA PALUSTRIS L. To the single station reported add others also in SURRY COUNTY: dry wooded slope by College Run, about 1 mile west of Highgate, no. 9988 (no. 9384, labeled as from east of Blizzard's Corners, is from the same station); rich wooded ravine northwest of Bacon's Castle, no. 9758; Mr. George Mason tells us of another station, back of the John Rolf house, between Surry and Scotland. See p. 477.

*LAGERSTROEMIA INDICA L. GREENSVILLE COUNTY: spreading in a bushy clearing at the North Carolina Line, near Fontaine Creek, southwest of Haley's Bridge, no. 9602.

RHEXIA CILIOSA Michx. To the few recorded stations add many in GREENSVILLE and NANSEMOND COUNTIES (many nos.). See p. 472.

EPILOBIUM COLORATUM Muhl. SURRY COUNTY: along rills, gullies in rich beech woods 1½ miles north of Surry.

Certainly very local on the Coastal Plain; collected by Grimes at Williamsburg.

*OENOTHERA FRUTICOSA L., var. **microcarpa**, var. nov. (TAB. 576, FIG. 1 et 2), caule glabro vel supra minute piloso; foliis lineari-lanceolatis glabris vel glabratis repando-dentatis; capsulis longe stipitatis strigoso-pilosis corporibus 3.5–4 mm. longis.—Prince George County, VIRGINIA: argillaceous and siliceous boggy depression about 3 miles southeast of Petersburg, on headwaters of Blackwater River, June 25, 1936, *Fernald, Long & Smart*, no. 5860 (TYPE in Gray Herbarium); similar habitat at head of Poo Run, June 19, 1936, *Fernald, Long & Smart*, no. 5858.

The specimens were distributed under the inclusive name *Oenothera fruticosa;* but now that we have the very illuminating treatment of the subgenus *Kneiffia* by Munz[1] it is apparent that the tiny-fruited plant of the boggy depressions of Prince George County is not accounted for in his treatment. By his statement our plant comes nearest to *Oe. fruticosa*, var. *subglobosa* (Small) Munz of Georgia and Alabama; but that has the capsule (PL. 576, FIG. 3) only minutely puberulent. *Kneiffia arenicola* Small, with capsules as small as in *Oe. fruticosa*, var. *microcarpa*, is described as having densely silvery-silky leaves. PLATE 576, FIG. 1 shows the summit of the TYPE, × 1; FIG. 2 is a capsule, × 5, to show the pubescence. FIG. 3 shows a capsule, × 5, of var. *subglobosa* from Stone Mt., Georgia, *A. H. Curtis*, no. 6472.

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[1] Philip A. Munz: Studies in Onagraceae X. The subgenus Kneiffia (genus Oenothera) and miscellaneous new species of Oenothera. Bull. Torr. Bot Cl. lxiv. 287 et seq. (1937).

*OE. FRUTICOSA L., var. **unguiculata**, var. nov. (TAB. 577, FIG. 1–3), caule 0.5–1 m. alto piloso, pilis copiosis divergentibus; foliis subvelutinis vel pilosis anguste lanceolatis subintegris; calicibus dense pilosis alibastris apicibus liberis subulatis unguiculatis 1–1.5 mm. longis; capsulis clavato-ovoideis valde sulcatis divergente hirsutis corporibus 5–6 mm. longis.—Southeastern Virginia to South Carolina. VIRGINIA: dry pine woods south of Skipper's, Greensville County, May 21 and July 18, 1939, *Fernald & Long*, nos. 9991 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.), and 10,747; peaty and argillaceous swale north of Littleton, May 22, 1939, *Fernald & Long*, no. 9990. SOUTH CAROLINA: low grounds, Columbia, June 16, 1855, *Hexamer & Maier*.

Var. *unguiculata* in its long sepal-tips is quite unlike the other varieties of *Oenothera fruticosa*. As defined by Munz, *Oe. fruticosa* has "sepals . . . with narrow tips up to about 1 mm. long, these not free or, if free, not strongly divaricate." PLATE 577, FIG. 1 shows the TYPE, × ⅖; FIG. 2 is a bud, × 3, showing the dense pubescence and the free unguiculate sepal-tips; FIG. 3, a fruit, × 5, from the TYPE-COLONY (no. 10,747). FIG. 4 is a characteristic full-grown bud, × 3, of *Oe. fruticosa*, var. *vera* Hook., as identified by Munz, from Penn's Grove, New Jersey, *Mary H. Williams*.

*OE. SPECIOSA Nutt. PRINCE GEORGE COUNTY: naturalized in dry open field, Camp Lee, no. 9989. ISLE OF WIGHT COUNTY: spreading on roadside bank southeast of Windsor, no. 10,748.

MYRIOPHYLLUM HETEROPHYLLUM Michx. GREENSVILLE COUNTY: closely filling two small woodland ponds, one about 1 mile north of Skipper's, no. 9798, the other just north of Dahlia, no. 9799, the latter with gigantic fruiting plants with numerous scorpioid branches at the center of the pond, but with more slender sterile plants at the margin (no. 8797), these superficially suggesting *M. pinnatum*.

*M. BRASILIENSE Cambess. (*M. proserpinacoides* Gill.). JAMES CITY COUNTY: abundant in brook in woods south of Williamsburg, no. 8796.

The cultivated "Water Feather," seen in other stations, especially in artificial ponds.

*PROSPERPINACA INTERMEDIA Mackenzie. WARWICK COUNTY: shallow pool in woods, north of Lee Hall, no. 8794.

Very abundant, growing with typical *P. palustris* and *P. pectinata* (the latter not seen by Grimes). See p. 468.

HEDERA HELIX L. PRINCE GEORGE COUNTY: abundantly naturalized and heavily flowering, rich alluvial woods and thickets by James River, Upper Brandon, no. 9386.

A very extensive colony, the shrubs climbing high in and choking the trees, the lower and sterile branches with angulate leaves, the upper and fertile with unlobed ovate blades. The "English Ivy," closely embracing the trees of *Bumelia*, *Celtis*, *Albizzia* and *Staphylea*, makes a most bizarre forest! See p. 478.

SANICULA CANADENSIS L., var. FLORIDANA (Bickn.) H. Wolff. To the station, already reported, in Isle of Wight County, add one in GREENSVILLE COUNTY: border of dry pine woods about 1 mile south of Skipper's, no. 8800.

S. SMALLII Bickn. Scattered in rich woods, always as a few plants only, from HANOVER to GREENSVILLE and SOUTHAMPTON COUNTIES (many nos.).

CHAEROPHYLLUM TAINTURIERI Hook Range extended north to PRINCE GEORGE COUNTY: base of wooded slope and in waste ground, City Point, no. 9760.

ZIZIA AUREA (L.) Koch. Range extended into western margin of Coastal Plain in SUSSEX COUNTY: bottomland woods, Sappony Creek, west of Stony Creek, no. 9762.

*OXYPOLIS TERNATA (Nutt.) Heller. GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, nos. 8804, 8906 and 9390.

An extraordinarily rare species, described from somewhere in the Carolinas but seen by Coulter & Rose only from Apalachicola, Florida (there fruiting in November). In the representation at the New York Botanic Garden and in the Gray Herbarium the following (besides the abundant material from Apalachicola) are represented: one additional station in northern Florida; one in southern Georgia; two in southeastern North Carolina. When first noticed near Dahlia (in the bog carpeted with *Burmannia biflora*) only young leaves were found; on September 18 the few plants were flowering, on October 12 the petals were dropping; but on December 31, with ice over the bog, Mr. and Mrs. Correll, Mr. Long and I could find no sign that it had fruited. The young carpels had apparently shriveled without maturing, presumably from the absence of the right insect to insure pollination. See pp. 472, 485, 491 and MAP 8.

THASPIUM TRIFOLIATUM (L.) Gray. See Fernald in RHODORA, xli. 442 (1939). Scattered stations in woods and thickets, HENRICO COUNTY to GREENSVILLE and SOUTHAMPTON COUNTIES (many nos.).

RHODODENDRON ARBORESCENS (Pursh) Torr. SOUTHAMPTON COUNTY: wet woods, Assamoosick Swamp, south of Sebrell, nos. 10,010,

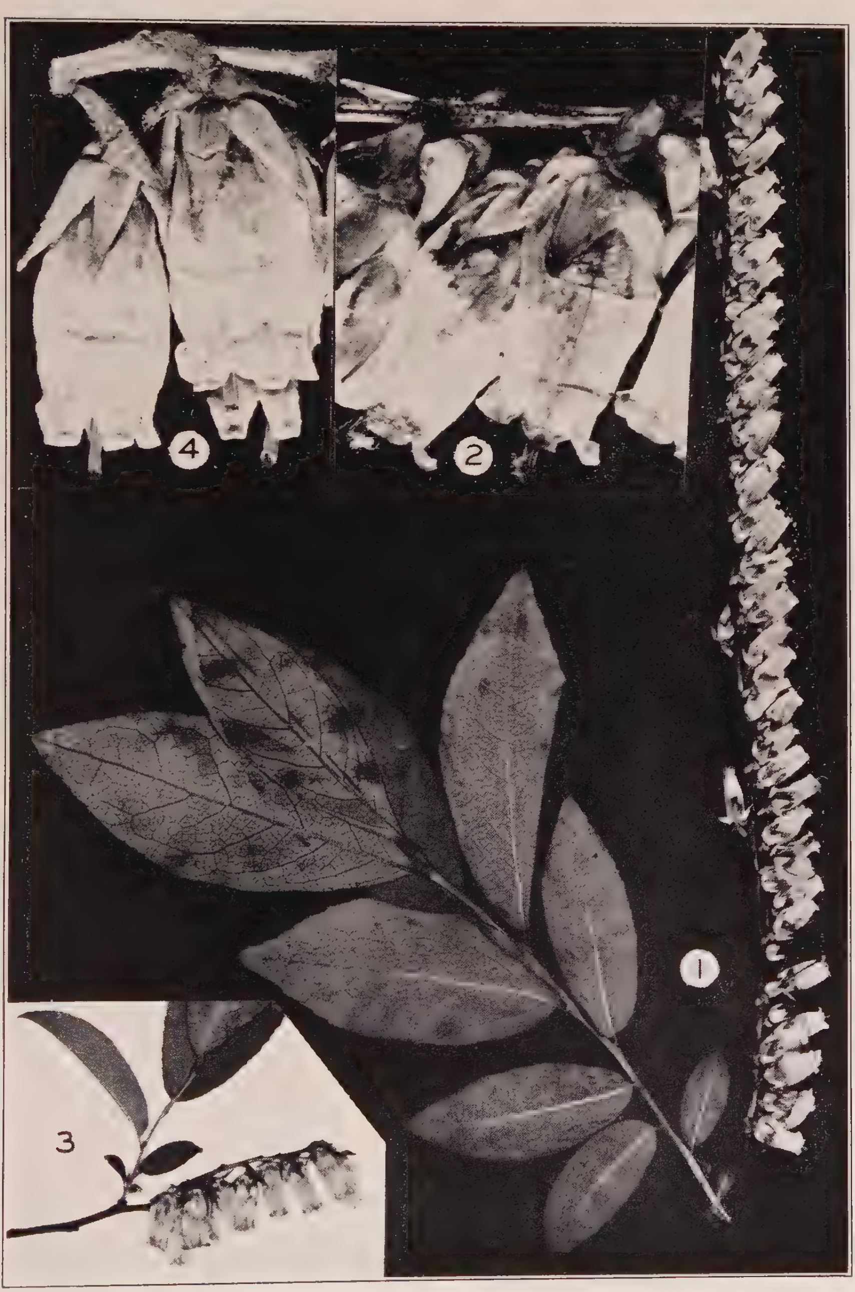

Photo. W. H. Hodge

Leucothoe racemosa: fig. 3, inflorescence, × 1, from New Jersey.
Var. projecta: fig. 1, portion of type, × 1; fig. 2, portion of raceme, × 5, from type.
Var. elongata: fig. 4, portion of raceme, × 5, to show pilose rachis, pedicels, etc., from Florida.

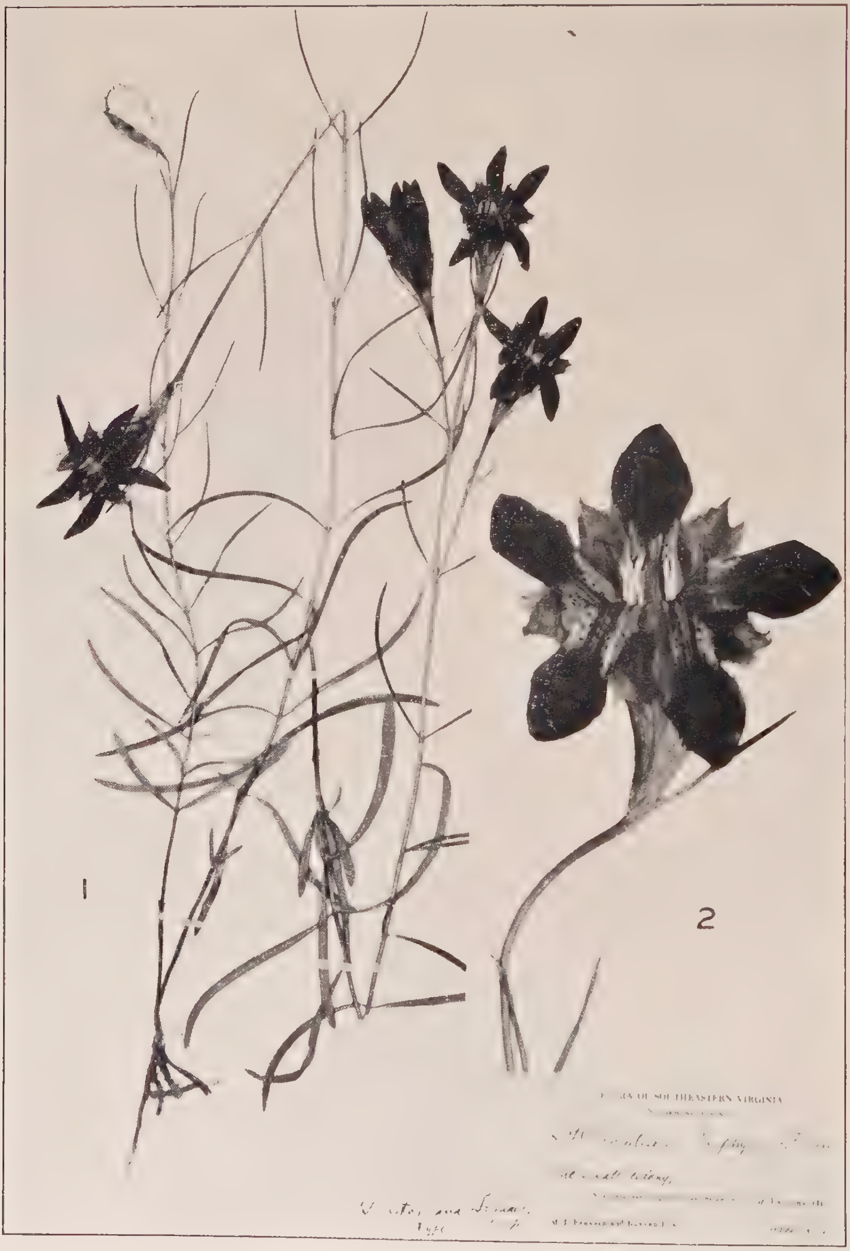

Photo. W. H. Hodge

GENTIANA STONEANA: FIG. 1, TYPE, × 2/5; FIG. 2, flower, × 1.

10,361 (3.2 m. high); sphagnous swampy woods southwest of Applewhite Church, no. 10,362. ISLE OF WIGHT COUNTY: swampy woods bordering pine barrens, south of Zuni, no. 8808 (3 m. high). NANSEMOND COUNTY: woods and thickets, depressions in pine barrens, east of Cox Landing, south of South Quay, no. 10,762.

Characteristic of wet woods and thickets, especially in the depressions of pine barrens. Usually supposed to be restricted to the region of the Blue Ridge and the Alleghenies, Rehder (Rehder & Wilson, Mon. Azaleas, 167 (1921)) saying it is "distinctly a species of the Appalachian Mountain region and does not occur in the coastal plane [plain] but along the Susquehanna it descends to the southern part of Lancaster County, Pennsylvania, along the Potomac to Fairfax County, Virginia," etc.

KALMIA ANGUSTIFOLIA L., var. CAROLINIANA (Small) Fernald. Range extended inland to SOUTHAMPTON COUNTY: wooded swamp about 7 miles south of Franklin, no. 10,002. NANSEMOND COUNTY: white sand of pine barrens, southwest of South Quay, no. 10,366. See p. 490.

*LEUCOTHOE RACEMOSA (L.) Gray, var. **projecta**, var. nov. (TAB. 578, FIG. 1 et 2), racemis plerumque 0.6–2 dm. longis, rhachi glabro; ramulis glabris vel deinde glabratis.—Southeastern Virginia to Georgia and eastern Tennessee. VIRGINIA: margin of pool in pine woods east of Little Creek, Princess Anne County, May 4, 1935, *Fernald & Griscom*, no. 4481; swampy woods near Steere's Pond, northeast of Burgess Station, May 19, 1939, *Fernald & Long*, no. 10,003 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.). NORTH CAROLINA: low oak-pine woods, 4 miles east of Bolton, Columbus Co., July 5, 1927, *Wiegand & Manning*, no. 2383; swampy woods, southeast of Maysville, April 17, 1933, *J. M. Fogg, Jr.*, no. 5545; cypress swamp near Wilmington, April 23, 1923, *Churchill*. SOUTH CAROLINA: Waccaman River swamps near Bull Creek, Horry County, April 22, 1932, *Weatherby & Griscom*, no. 16,613; near Beaufort, May 5, 1917, *Churchill;* Porcher's Bluff, Christ Church Parish, Charleston County, April 16, 1911, *E. A. Mearns*, no. 69. GEORGIA: dry white sand south of Open Pond, Decatur County, August 13, 1901, *Harper*, no. 1217. TENNESSEE: border of woods, Wolf Creek, May 15, 1900, *Ruth*, no. 191.

Var. *projecta*, when well developed, has amazingly longer racemes than typical *Leucothoë racemosa* (based on *Andromeda racemosa* L., from eastern Pennsylvania), the wide-spread and northern shrub (FIG. 3) having them 2–5 (rarely –7) cm. long. Var. *projecta*, likewise, tends to have larger flowers, but I can find no morphological characters to separate them.

Var. *projecta* has recently been included by Small in *Leucothoë elongata* Small in Bull. N. Y. Bot. Gard. i. 284 (1899) when, in his Manual, he treated it as *Eubotrys elongata* with the range "Acid swamps and sandhill ponds, Coastal Plain, Fla. to La. and S. Va." Originally *L. elongata* was described only from Florida, the characteristic shrub, occurring from Georgia and Florida to Louisiana, with closely pilose branchlets and rachises and with ciliate sepals (FIG. 4). So far as I can make out the latter shrub has no other characters to separate it from the glabrous long-racemed variety of southeastern Virginia and even from the short-racemed typical *L. racemosa.* Dr. Britton apparently balked at making a transfer of it. Treating *Leucothoë racemosa* in Ill. Fl. ed. 2, as *Eubotrys racemosa* (good old *Leucothoë,* § *Eubotrys* Gray), he said "**Leucothoë elongata** Small, of the Southern States, is of this genus . . . as far north as Virginia"; but, although placing *L. racemosa* under *Eubotrys,* Britton kept *L. elongata* as *Leucothoë*! I am calling it

LEUCOTHOË RACEMOSA (L.) Gray, var. **elongata** (Small), comb. nov. *L. elongata* Small in Bull. N. Y. Bot. Gard. i. 284 (1899). *Eubotrys elongata* Small, Shrubs of Florida, 95, 133 (1913).—Georgia and Florida to Louisiana. PLATE 578, FIG. 4, portion of raceme, × 5.

In PLATE 578, FIG. 1 is a characteristic inflorescence, × 1, of the type of *Leucothoë racemosa,* var. *projecta;* FIG. 2, flowers and a portion of the glabrous rachis, × 5, from the TYPE; FIG. 3, a characteristic inflorescence, × 1, of typical *L. racemosa* from the general type-region, Hammonton, New Jersey, *Wm. Bassett;* FIG. 4, flowers and portion of the pilose rachis, × 5, of var. *elongata* from north of Aucilla, Jefferson County, Florida, *Griscom,* no. 21,482.

BUMELIA LYCIOIDES (L.) Gaertn. f., var. VIRGINIANA Fernald in RHODORA, xxxviii. 439 (1936). PRINCE GEORGE COUNTY: rich alluvial woods and thickets by James River, Upper Brandon, no. 9396.

At this point the endemic *Bumelia* of southeastern Virginia is very abundant, making a striking feature of the alluvial thicket, the small and (in September, 1938) heavily fruiting trees reaching a height of 4.5 m., with trunks up to 1.5 dm. in diameter. See p. 478.

STYRAX AMERICANA Lam. To the very few known stations in Virginia add the following. HENRICO COUNTY: swampy thicket bordering Whiteoak Swamp, south of Elko Station, no. 9394. SOUTHAMPTON COUNTY: swampy woods along Nottoway River, below Point Beach, south of Franklin, abundant, no. 10,780. NANSEMOND COUNTY: low sandy woods along Blackwater River, George's Bend, south of South Quay, no. 10,781, abundant. See p. 478.

*GENTIANA CHEROKEENSIS (W. P. Lemmon) Fernald in RHODORA, xli. 487 (1939). SUSSEX COUNTY: moist argillaceous pineland ("flat pineland") about 2 miles east of Stony Creek, nos. 9617, 9685. See pp. 486, 487 and MAP 14.

Very distinct from *Gentiana Saponaria* L. in its linear-lanceolate leaves and its longer and stiffly erect calyx-lobes, as well as in the deeper-blue corolla with conspicuous darker longitudinal bands. The only station known north of northwestern Georgia.

G. CATESBAEI Walter, Fl. Carol. 109 (1788). Described in the brief phrase under the group with campanulate ventricose corollas, *G. Catesbaei* was further defined only by the brief "corollis extus caeruleis, foliis lanceolatis remotis," as contrasted with *G. Saponaria* sensu Walter, not Linnaeus, which was defined "corollis viridescentibus, foliis ovatis trinerviis". The latter, of course, was the greenish-flowered *G. villosa* L., whereas, as shown by a photograph kindly sent me by Mr. Ramsbottom of the only gentians in the Walter herbarium, his *G. Catesbaei* covered both a plant suggesting *G. Saponaria* L. in the strict sense and *G. Elliottii* Chapman, which, because of the earlier *G. Elliottea* Raf., has been passing as *G. parvifolia* (Chapm.) Britton. Asa Gray, not recognizing the latter species, treated Walter's *G. Catesbaei* as identical with *G. Saponaria.* Since Walter's material contained both a plant similar to the Linnean *G. Saponaria* and the plant with open-campanulate erect corollas subsequently called *G. Elliottii* Chapman and *G. parvifolia* (Chapm.) Britton, I am taking up the name G. CATESBAEI Walter for the latter southeastern species, thus following the earlier treatments.

G. **Stoneana**, sp. nov. (TAB. 579), perennis pergracilis; caulibus solitariis vel paucis teretibus glabris 2–6 dm. longis arcuatis vel suberectis simplicibus vel 2–3-furcatis; foliis angustissime linearibus vel lineari-oblanceolatis crassis, 7–15-jugis; floribus pedunculatis lineari-bracteatis vel nudis; calicis lobis foliis superioribus valde similibus; corollis intense azureis vel indicis tubo obconicis intus brunneo-maculatis, limbo valde patentibus vel rotatis, lobis ovatis vel late oblongis 1.3–2 cm. longis plica multifida duplo longioribus.—Pine barrens of New Jersey and locally from southeastern Virginia to South Carolina. TYPE: siliceous and argillaceous thicket north of Factory Hill, Nansemond County, Virginia, *Fernald & Long*, no. 9611 (in Herb. Gray; ISOTYPE in Herb. Phil. Acad.).

Gentiana Stoneana is the exquisite species which erroneously passes as *G. Porphyrio* J. F. Gmelin. It was described from South Carolina as *G. angustifolia* Michx. Fl. Bor.-Am. i. 177 (1803) and under that name it was known to Grisebach and to Gray (Synoptical Flora), but Michaux's name can not now be maintained because of the earlier *G. angustifolia* Vill. (1787). The name *G. Porphyrio* J. F. Gmelin was cited by Grisebach in its synonymy and, since its adoption in Britton & Brown and in Gray's Manual, ed. 7, in place of *G. angustifolia*, has become very firmly established. Gmelin never saw the plant and certainly did not newly describe it. He merely gave a substitute name for *G. purpurea* Walter, not L. Walter's *G. purpurea* was very briefly and vaguely described. He had three species of *Gentiana:* two under the section "corollis campanulatis ventricosis" (his *G. Saponaria*, which was *G. villosa* L., and his *G. Catesbaei*, which was partly *G. Elliottii*, as above pointed out); and under "Corollis infundibuliformibus" his

purpurea 3. corollis intus laete purpureis; caule simplici, fol. linearibus.

The only species of *Gentiana* represented in Walter's herbarium are, as indicated by me under the discussion of *G. Catesbaei*, mere fragments of the latter, of *G. villosa* L. (*G. Saponaria* sensu Walt., not L.) and of something resembling true *G. Saponaria*. There is nothing resembling *G. Stoneana* (*G. angustifolia* Michx., not Vill.). Whether the latter occurs in Walter's territory is doubtful; I have seen none from there in the herbaria examined; and certainly the description of the corolla as infundibuliform and bright purple within could not have been applied to *G. Stoneana* with intense blue corolla with brown speckling on the inside of the obconic tube and with conspicuous rotate limb. Among the unsettled species of *Gentiana* which Long and I have found in Southampton County, Virginia is one with narrowly lanceolate to linear leaves and purple-violet to crimson or "rose-purple" infundibuliform corollas. It is also in the Gray Herbarium from Beaufort County, South Carolina; and I have seen it at the New York Botanical Garden from eastern North Carolina. It has erroneously passed as the prairie species, *G. puberula* Michx. It certainly is not that, but whether it is *G. purpurea* Walt. must await further study. It is highly probable that it is. At any rate, I find myself quite incapable of believing, when Walter described a plant with infundibuliform corolla lively purple within, that he referred to a plant with rotate azure- or indigo-blue flower. As stated, *G. Porphyrio* was merely a substitute-name given by Gmelin to replace *G. purpurea* Walt., which he did not know, but the name obviously referred to the conventional purple of porphyry.

Whatever *G. purpurea* is *G. Porphyrio* is the same. In view of the occurrence in Walter's area of a little known gentian with narrow leaves and truly infundibuliform purple corollas it is only right, in the absence of a preserved type, to suppose that Walter had such a plant. Its status as a species awaits fuller material and more critical study.

Gentiana Stoneana I name with great pleasure for the distinguished student of the Pine Barrens of New Jersey, the late WITMER STONE. Stone's keen appreciation of this plant was vividly shown in his following brief comment: "It is probably a matter of individual preference to determine which gentian is the handsomest. The present species, found only in the remote sections of the Pine Barrens, is certainly the least known and to my mind as handsome as any. Its flaring mouth, the delicate markings within, and the intensity of the blue, make it one of the choicest blooms of the region"—Stone, Pl. So. N. J. 640. No plant could more appropriately commemorate Witmer Stone than this retiring and distinguished gentian, with its flowers of true blue.[1]

In RHODORA, xxxix. 364 and 444 (1937) I recorded finding *Gentiana "Porphyrio"* south of Factory Hill, Nansemond County, Virginia. The road there has no state boundaries indicated and retravel of it shows that our station was actually within Gates County, North Carolina. Our no. 6852, as well as fuller material collected in October, 1938 (no. 9612) should be indicated as from "border of moist argillaceous pine and oak woods 1½ miles northeast of Dort School, Gates County, North Carolina." See p. 487.

PLATE 579 shows as FIG. 1 a couple of plants, × ⅖, the TYPE of GENTIANA STONEANA. FIG. 2 is a flower, × 1.

AMPELAMUS ALBIDUS (Nutt.) Britton (*Gonolobus laevis* sensu Vail, not Michx.). See Perry in RHODORA, xl. 286 (1938). HENRICO, PRINCE GEORGE and SURRY COUNTIES: rich alluvial woods and thickets (many nos.). See p. 475 and MAP 10.

PHACELIA DUBIA (L.) Trel. To the single Coastal Plain station (in Greensville County) add others in SOUTHAMPTON, SUSSEX and DINWIDDIE COUNTIES (several nos.). See p. 489.

In eastern Virginia *Phacelia dubia* is one of the indigenous weeds and ruderals, springing up early (flowering from early April into May) in fields, roadsides and waste places and becoming mostly dried and unrecognizable by June.

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[1] The smaller white-flowered species of Florida is GENTIANA **tenuifolia** (Raf.), comb. nov. *Diploma tenuifolia* Raf. Fl. Tell. iii. 27 (1837). *Dasystephana tenuifolia* (Raf.) Pennell in Bull. Torr. Bot. Cl. xlvi. 183 (1919).

Hydrolea quadrivalvis Walt. Range extended north from the southernmost counties to Chesterfield County: margin of exsiccated old millpond in Swift Creek, Lakeview, no. 9413. See p. 477.

*Myosotis macrosperma Engelm. Prince George County: rich deciduous woods, Coggins Point, no. 10,016; alluvial woods by Wall's Run, northwest of Garysville, no. 10,017. Surry County: alluvial woods along Gray's Creek, west of Old Courthouse Corners, no. 10,018; border of cypress swamp along College Run, about 1 mile west of Highgate, no. 10,019.

Although treated in Gray's Man., ed. 7 merely as a trivial variety, var. *macrosperma* (Engelm.) Fernald, of *Myosotis virginica*, that disposition is not justified. True *M. macrosperma*, characteristic in southeastern Virginia of the rich calcareous soils of the Miocene fossil-beds south of the James and found by us nowhere else, is sharply defined as a species. Its disagreeable habit of maturing its fruits in two or three days and conferring them (in the glochidiate-bristly large calices) upon the clothes of passing intruders is a character not conspicuous in *M. virginica* of thin and sterile soils. See p. 493.

Physalis monticola C. Mohr. To the first Virginian station (in Southampton County) add two in Dinwiddie County: borders of dry oak and pine woods north of Burgess Station, no. 10,021; dry hickory and oak woods 2–3 miles east of Dinwiddie, no. 10,022.

*Linaria canadensis L., var. texana (Scheele) Pennell. Dinwiddie County: sandy fields and clearings southwest of Petersburg, no. 10,023.

A characteristic southern extreme but in Virginia (as about Charleston, South Carolina, where we watched it in April) with a perfectly continuous series connecting the extreme large-flowered plants with the very small-flowered typical *L. canadensis*. There is no good reason to call the innumerable transitional specimens hybrids of two distinct species, as Pennell has recently implied (Scroph. E. Temp. N. Am. 302). His original treatment showed better understanding of the plants. If the species hybridize so freely that most specimens in an old field are intermediates the value of the two extremes as distinct species is nullified. The seeds, like the flowers, are quite inconstant. See p. 490.

*Chaenorrhinum minus (L.) Lange (*Linaria minor* (L.) Desf.). Henrico County: railroad cinders, Elko Station, nos. 8842, 9137. Dinwiddie County: similar habitat, Petersburg, nos. 10,813, 10,814. See p. 473.

Pennell, l. c. 318, had seen (in 1935) no material from south of Pennsylvania.

SCROPHULARIA MARILANDICA L. To the single Coastal Plain station (in Sussex County) reported add others in SOUTHAMPTON and DINWIDDIE COUNTIES (various nos.).

(*To be continued*)

A NEW CHINESE ELEOCHARIS.—ELEOCHARIS **yunnanensis**, n. sp. aff. *E. multicaulo*, rhizomate crasso descendente, culmis erectis vel recurvatis, 1.5–4 dm. longis, striatis, griseo-viridiscentibus, 0.5–1.0 mm. diametro; vaginis superioribus purpurascentibus, in apice acutis; spiculis 4–7 cm. longis, ovatis vel ellipticis, subacutis, 6–10-floris, frequenter proliferis; glumis purpureis, obtusis, non carinatis, apice hyalinis; stylo 3-fido; staminibus 3, antheris 1.5 mm. longis; achaenio trigono anguste obovato, 1.5 mm. longo, nitidulo flavescente, subtiliter striato-reticulato; stylobasi angusto, trigono, conico, non lobato; setis albidis vel brunneis, achaenio paullo longioribus.—CHINA: mountain slope, 3000 m., Wei-si Hsien, Yunnan, *C. W. Wang* no. 67819 (TYPE in Gray Herb.); mountain slope, 2300 m., Li-Kiang Hsien, *Wang* no. 71207; stream, 2600 m., Ta-li Hsien, *Wang* no. 63126; stream on mountain, 2300 m., Kun-Ming, *Wang* no. 62972.

This may be looked upon as a mountain species of the PELLUCIDA group, and the oriental representative of *E. multicaulis*, from which it differs chiefly in its somewhat smaller, yellow achenes and brighter scales. Superficially it resembles *E. Bolanderi* of the western United States. To Dr. E. D. Merrill I am indebted for the privilege of seeing the material, all of which is now in the Gray Herbarium.—H. K. SVENSON, Brooklyn Botanic Garden.

PLANTAGO VIRGINICA IN MAINE.—Two living specimens of *Plantago virginica* L., were brought to the Portland Society of Natural History by Miss Helen Pitman, July 7, 1937. Miss Pitman found the plants growing on her lawn in South Portland; her search failed to reveal another specimen. The plants were mature and agree in floral characters and pubescence with figures published by Dr. M. L. Fernald in 1938[1] and with specimens collected in Indiana.

This find seems to call up the status of an early report of the species in the Maine flora. In 1862 Dr. George L. Goodale included it without comment in his "Catalogue of the Flowering Plants of Maine."[2]

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[1] 1938, Fernald, RHODORA *40* Plate 530, figs 1, 2 and 3.

[2] 1862, Goodale, Proc. Portland Soc. Nat. Hist,. I, (1) 56.

Dr. M. L. Fernald carried it forward in his "Portland Catalogue of Maine Plants,"[1] but in his first "Supplement to the Portland Catalogue"[2] removed it to a list of species for which no station was known.

Again, in a lecture before a meeting of the Josselyn Botanical Society of Maine, held in Wells, August 8–11, 1916, illustrating his remarks with specimens, Dr. Fernald focused attention upon about twenty plants[3] recorded from southwestern Maine, of which no specimens were known to exist in collections. This group included the present species.

While a number of those hypothetical plants have now been found in Maine, a fruitless search for this plantain by the active collectors of York and Cumberland Counties has been made. Some of us, at least, had assumed that the report of *Plantago virginica* in the state implied an outlying station for this southern species, like those for *Chamaecyparis thyoides, Salicornia ambigua, Acnida cannabina, Quercus montana, Benzoin aestivale, Cornus florida, Aster laevis, A. subulatus* and others.

A better knowledge of the range of this plantain, brought about through the careful explorations of numerous field botanists, during the past two decades or more, has shown that this view is extremely improbable. Those of us historically minded will like to recall that at the time Dr. Goodale worked in Portland and his native York County, the coasting trade was near its zenith, extending from the ports of Maine to those of the South Atlantic States and even the Gulf States, with a host of sailing vessels bringing all types of merchandise and often part cargoes of ballast to our shores. Various plant waifs, some permanent introductions, others enduring a single season only, through that means crept into the old catalogue.

Whether or not *Plantago virginica* belongs in that category, it may now take its place among the fugitive species which have appeared in our flora.—Arthur H. Norton, Museum, Portland Society Natural History.

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[1] 1892, Fernald, l. c. II, (1) 59.

[2] 1895, Fernald, l. c. II, (3) 94.

[3] 1920, Fernald, Bull. Josselyn Bot. Soc. 6, 6; 8.

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